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ABSTRACT

The purpose of the Maine Assessment of Educational Progress (MAEP) in 1972 was to complete the first phase of a 10-year comprehensive needs assessment program involving students in public and non-public schools of the state. The total program is designed to provide specific information about knowledge, skills, understandings, and attitudes in 10 subject areas. The first phase investigated the areas of Citizenship and Writing, using a state-wide probability sample of Maine's 17-year-old student population and the National Assessment of Educational Progress (NAEP) model. This report discusses sampling considerations, exercise package development, administration and scoring, data analysis plan, descriptive analyses, comparisons with National assessment, and within Maine analyses. The overall Citizenship results showed that there was a tendency for the Maine students to surpass national performance on concern for the well-being of others and respect for their rights as individuals. With respect to the Writing results, it is concluded that more emphasis on scholastic writing opportunities is needed to align Maine student performance with that of the Northeast region and the nation. (For appendixes to the report, which are bound separately, see TM 003 116; for a discussion of the study methodology, see TM 003 117.) (DB)

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MAINE ASSESSMENT OF EDUCATIONAL PROGRESS

REPORT 2

RESULTS REPORT I

Citizenship and Writing
1972

State of Maine
Department of Educational and Cultural Services

TM 003 115

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MAINE ASSESSMENT OF EDUCATIONAL PROGRESS

REPORT 2

R E S U L T S R E P O R T I

Citizenship and Writing

1972

Carroll R. McGary, Commissioner
Department of Educational and Cultural Services
Augusta, Maine

Conducted in cooperation with Research Consortium
for Educational Assessment Consisting of
Research Triangle Institute, Research Triangle Park, N. C.
Measurement Research Center, Iowa City, Iowa
American Institute for Research, Palo Alto, California

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E. MAEP-NAEP Comparative Subgroup P-Values and Standard Errors, NAEP-MAEP Differences and Standard Errors, Sample Sizes, and T-Type Ratios for All Results

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The Maine Assessment of Educational Progress (MAEP) for 1972 was a joint effort by the Maine Department of Educational and Cultural Services and the Research Consortium for Educational Assessment. The Consortium consists of the Research Triangle Institute (RTI), the American Institute for Research (AIR), and the Measurement Research Center (MRC), division of the Westinghouse Learning Corporation.

MAEP involved and required the efforts and cooperation of many people. The following personnel at RTI in the Center for Educational Research and Evaluation comprised the project staff: Dr. D. L. Bayless, Project Director; Dr. J. P. Bailey, Jr., Assistant Project Director; Dr. G. H. Dunteman, and Ms. H. Lewis.

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I. INTRODUCTION

Background and Purpose of the Project

In cooperation with the Department of Educational and Cultural Services of the State of Maine, the Research Consortium for Educational Assessment designed and implemented in 1972 the Maine Assessment of Educational Progress. The Consortium consists of three institutions which have been deeply involved in this area for years: Research Triangle Institute (RTI) of Research Triangle Park, North Carolina, Measurement Research Center (MRC) of Iowa City, Iowa, and American Institutes for Research (AIR) in Palo Alto, California.

The purpose of the Maine Assessment of Educational Progress (MAEP) in 1972 was to complete the first step or phase of a ten-year comprehensive needs assessment program. The overall model is designed to provide specific information about knowledge, skills, understandings, and attitudes in ten subject matter areas. The current phase investigated the areas of Citizenship and Writing using the National Assessment of Educational Progress (NAEP) model; and subsequent yearly assessments will assess eight other areas.

National Assessment (NAEP) is a census-like study to measure important specific outcomes of education. The beginnings of NAEP date from about 1964 when the Exploratory Committee on Assessing the Progress of Education (ECAPE) was established with Carnegie Corporation funds to investigate the possibilities of a national assessment. ECAPE developed a plan and instrumentation for its work, and this in turn resulted in the overall design now followed by NAEP. Actual administration of National Assessment exercises in the schools began in the spring of 1969. NAEP's governing organization is the Education Commission of the States (ECS) composed of representatives of the states and territories. Major funding is provided by the U. S. Office of Education.

The major goals of NAEP are twofold:

1. To make available the first census-like data on the educational attainments of young Americans; and

2. To measure any growth or decline which takes place in selected aspects of educational attainments of young Americans in certain subject areas.

Attainment of these goals should enable data to be gathered which will help answer the question, "How much good is the expenditure of so much money doing in terms of what Americans know and can do?" However, it is first necessary to determine what the educational system is trying to achieve. ECAPE, followed by CAPE (Committee on Assessing the Progress of Education) and NAEP, have long been involved in determining these objectives and developing questions and tasks (called exercises) to assess how well these objectives are being achieved. Exercises have been administered to thousands of people in four different age groups (9, 13, 17 and young adults) selected through random sampling procedures throughout the country. Citizenship and Writing, developed quite early in NAEP's history, are but two of ten areas for which objectives and exercises are being developed.

The Maine Department, in an effort to gather statewide educational data, has adopted the basic elements of the NAEP model and adapted them to meet Maine needs. One would have difficulty coming up with empirical evidence on the strengths and weaknesses of the schools of Maine in meeting the needs of our society. To what extent are Maine students learning the functions and structure of government, rights and freedoms of individuals, how to participate in effective community actions, United States social structure, or how to communicate effectively? Neither these questions nor many like them can be answered by information currently available in Maine.

The concept of educational needs assessment requires identifying learning outcomes which are desirable, and then determining a learner's status with respect to those outcomes. Put another way, one must first say what is important for children to know as a result of their school experiences, and then systematically determine if they in fact do know what has been said is important for them to know.

Dating from early 1969 Maine school personnel have been developing a proposed philosophy for Maine schools to unify their educational efforts. This was the Goals and Needs of Maine Education (GNOME) project, which

resulted in two basic goals and 16 learner-oriented subgoals for Maine education. During February and March 1972, two review committees met to assess the relationship of NAEP goals to GNOME goals. One review committee consisted of an in-house Departmental cross-section of professional staff. The other committee was an outside group of interested persons from such areas as the Legislature, Labor, State Planning, and Student Government, to name a few. There emerged a generally high level of support for the acceptance of the NAEP objectives.

After thorough investigation, careful thought, and with due consideration for the pressing urgency of the problem, the Maine Department decided to embrace the NAEP model of objectives and exercises over a cyclical schedule of periodic assessments. Maine Assessment of Educational Progress (MAEP) will examine in Cycle I the ten subject matter areas of NAEP by scheduling two of them each year for five years. Citizenship and Writing were the first. The remainder are Science, Reading, Career and Occupational Development, Literature, Mathematics, Music, Art, and Social Studies. Cycle I will provide benchmark data. Cycle II will repeat Cycle I and will provide a measure of educational performance progress over time.

It was extremely difficult for the educational leaders in Maine to anticipate a set of educational issues uniquely relevant to Maine which they could expect the assessment program to answer directly. Some of the more general questions it was hoped data would shed some light on were:

1. Does the amount of money expended per pupil make a difference in student achievement in schools?
2. Is student achievement related to teacher salaries?
3. Does community involvement and support relate to student achievement?
4. Does the adequacy and amount of reading material in the home relate to student achievement in school?
5. Are the needs of children being met by the school program?

These general questions, and many more like them, will underlie the critical examination of the achievement data produced by the MAEP study. Using survey techniques, public hearings, and other appropriate self-examination

procedures both inside and outside the Maine Department, the criticality of determined needs as revealed by the data will be assessed. What can be changed, improved, or implemented to meet the most critical needs will be determined. Areas in which more data are needed will form a basis for planning the type of data to be collected in subsequent years of assessment.

Sampling Considerations

The major concern in designing a sample for a Statewide Educational Assessment is to have the sample design compatible with the overall objectives of the assessment program. The cost effectiveness of selecting a sample of pupils to analyze the educational achievements of groups of pupils attending Maine's schools as contrasted with evaluating all pupils is easily justified from a cost versus statistical precision viewpoint.

Design of a sample for educational assessment means consideration of the following factors of importance:

1. All schools and students of the target group must be available to be sampled.

2. The way in which the schools of the sample frame are to be grouped or stratified must be specified.

3. The sample selection procedure to be used to select schools and pupils must be on a probability basis.

4. School and pupil sample sizes at each stage of sampling must be considered relative to the statistical precision expected.

5. Weighting and estimating procedures to be used in analysis of the resultant data should be developed to provide unbiased estimates of population values.

It is of extreme importance that the sample design be closely interwoven with the instrument development, data collection, and analysis phases of the assessment. The instrument development phase specifies which variables are to be analyzed. The data collection phase specifies how the data is to be collected, while the analysis phase specifies how the data is to be analyzed and reported.

The requirement of the Maine sample from a data analysis viewpoint was that it provide sample sizes of certain groups or subpopulations of Maine 17-year-olds in school so that Writing and Citizenship performance could be analyzed for these groups. In particular, the sample was spread across four geographical regions of the state (North, East, West, South) so that results could be reported by region. The sample was also expected to produce sample sizes to provide results of reliable statistical precision for groups defined by community variables, in the home variables, and other non-school and school variables.

The NAEP project assesses four age groups, each chosen to provide information at meaningful periods in educational life. Age 9 marks the end of most students' primary education; age 13 is the end of elementary education for most students. Age 17 is usually close to the end of secondary education and is the last time many children are in school. The 10-year span of 26-35 for the young adult category provides a large enough population from which to sample adults who have finished their formal education.

The Maine Department chose the 17-year-old population of in-school youngsters for its first assessment phase using the NAEP model. A sample of 2,000 17-year-olds was designed to represent the approximately 17,000 17-year-olds in the state. This was considered large enough to give results of sufficient statistical precision for the groups to be reported. Detailed sampling methodology and techniques are given in Chapter II of the methodology report.*

Exercise Package Development

The exercise package for the MAEP project consisted of a 32-page booklet printed specially for the assessment project by the Measurement Research Center. Because of the basic design of this project, an overriding consideration in the development of the package was insuring its compatibility with materials and procedures used in the National effort. Other considerations included the usual ones of exercise format, placement and

*Maine Assessment of Educational Progress Methodology Report. Research Triangle Park, N. C.: Research Triangle Institute, Center for Educational Research and Evaluation, November 1972.

location, mode of administration, and procedures to ensure standardization among testing situations and conditions.

After the basic decision had been made to conduct the MAEP project in the subject matter areas of Citizenship and Writing, the available released exercises from NAEP were carefully examined by Maine Department staff and exercise developers from the American Institutes for Research to see if they could be modified where needed to be administered in group sessions using the paced-tape method, and still retain a high degree of comparability. The final decision was to include 23 Citizenship and 7 Writing exercises in the package, plus a 23-item Student Questionnaire to collect background and demographic data considered important for analysis purposes. Total testing time per student was less than two hours.

Exercise format was kept virtually identical to NAEP in all cases. The exercises themselves were carefully placed in the booklet in a similar fashion to that of NAEP's booklet. A paced-tape was created for the booklet so as to minimize effects of slow reading ability among students. Each item was read aloud and ample time was permitted for students to answer before proceeding to the next page.

The issue of confidentiality of information was met by having student identification information, which was necessary to ensure that specified students came to the testing sessions, removed from exercise booklets before the booklets left each school and were sent away for scoring.

A more detailed discussion of the exercise booklet is given in Chapter III of the methodology report.

Administration and Scoring

The administration of the assessment exercise packages was accomplished in the first two weeks of May 1972 in 97 schools in the state to 1,749 students aged 17 then attending school. This amounted to a school participation rate of 97 percent and a student participation rate of 87 percent within participating schools. In the interests of having highly

standardized testing conditions and as short as possible a lapse of time between the beginning and end of exercise administration, extensive training of exercise administrators was conducted by personnel from Research Triangle Institute.

Personnel employed regularly at the Maine Department in Augusta comprised the exercise administration teams for the project. An exercise manual was developed in detail. After training with the materials, tape recorder, and stimulus tapes, each administrator was provided a schedule of his administration dates and schools, and a complete set of exercise booklets for the schools in his assignment. Finally, check-in procedures were developed to establish a regulated system for editing and accounting for all information and work completed in the field.

Scoring was accomplished by the Measurement Research Center. Again, due to the desire to maintain comparability with the NAEP data, the same scoring criteria were used with the Maine project as were used with NAEP. Closed questions, i.e., those with a specific right or wrong answer or a yes/no, were simply scored appropriately. The many open-ended questions, however, required special care as professional scorers (some the same who scored for NAEP) evaluated each student's answer and assigned numerical scores indicating the appropriate NAEP response category code. Thus answers were deemed "acceptable" by the same criteria used previously when the exercises were administered nationwide in the NAEP project.

A data file was then developed for each student which included his responses to each of the exercises, information given by him in the student questionnaire section of the exercise booklet, and certain other information of a more general nature and relating to his school or community. This information was sent to RTI for merging with sample design data to form a data file for analysis purposes. The data file was then inspected record by record for data problems by RTI statisticians. Problems were resolved and the data file passed on to RTI computer analysts for the computations needed for the analysis plan. In general, it was concluded that the overall quality of the data was satisfactory from the viewpoint of completeness and

"in-rangeness." No imputation procedures were applied to the data for missing responses.

A more detailed discussion of the administration and scoring procedures is given in Chapter V of the methodology report.

Data Analysis Plan

The basic elements of the analysis plan were decided jointly by planners, consultants and Associate Commissioners from the Maine Department, and analysts from RTI and AIR. In general terms, comparisons were made of Maine results with appropriate NAEP data, and within-Maine reporting variables were analyzed that were statistically feasible. The results were presented as percentages (in the form of estimated p-values) of students who gave the acceptable response on a Citizenship or Writing exercise. Group performances were compared with National or regional performance, and with overall State of Maine performance, by noting the p-value differences achieved by specified groups on each Citizenship and Writing exercise. It must be remembered, however, that an observed difference between two groups cannot be considered different unless the difference is judged against an estimate of its variability, the standard error, in repeated samplings. Further, differences in group characteristics do not necessarily cause performance differences. All differences analyzed are judged as important or significant relative to their standard errors which were computed in accordance with the sample design used to produce the assessment data. Appendix A of the methodology report gives the mathematical details of the procedure used to calculate standard errors.

Comparisons of the MAEP results with the NAEP data were made on four comparable* group results: the National percentage, the Northeast U. S.

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*At the planning stages of the project, it was thought that MAEP results could be compared to NAEP results relative to the size or type of community the student resides in or his school is located. After further evaluation, it was found that this was impossible to do for the State of Maine in that the size of community population groups NAEP reports its results by do not match any of Maine's size of community population groups. For example, most of Maine's population resides in communities of less than 10,000 people. Empirical evidence on this point is provided in Chapter II of this report.

percentage, percentages by sex, and percentages by four levels of parent high school education. The comparable NAEP results for 17-year-olds in school were obtained through NAEP's Department of Utilization/Applications since NAEP's published results are for "total" (in plus out of school) 17-year-old population. For certain exercises, using the NAEP published results for the "total" 17-year-old population would have led to considerable statistical bias in the NAEP to MAEP comparisons.

For these NAEP to MAEP comparisons, the exercises were clustered into goal groups based on their NAEP classification. Therefore, both the tables and the discussion of the Citizenship results of these comparisons are organized in the following manner:

Group I	Show Concern for the Welfare and Dignity of Others
Group II	Support Rights and Freedoms of All Individuals and Recognize the Value of Just Law
Group III	Know the Main Structure and Functions of Government
Group IV	Participate in Civic Action
Group V	Understand Problems of International Relations and Approach Civic Decisions Rationally
Group VI	Take Responsibility for Own Development

Although discussed in more functional terms in Sections III and IV, Writing exercises are clustered into the following three NAEP goal groups:

Group A	Write to Communicate Adequately in a Scholastic Situation
Group B	Write to Communicate Adequately in a Business or Vocational Situation
Group C	Appreciate the Value of Writing

It was decided at the inception of the project that the sample should produce results for at most four reporting groups by each variable for the within-Maine analyses. It was further decided that the analysis of the interaction of two variables, that is, the effects of one variable analyzed over the levels of the other variable, was not a primary requirement of the sample design or the data analysis plan for the study. It should be

stressed we are not saying that interactions should not be analyzed in the analysis of assessment data, but the point is that they should only be analyzed when the sample is designed to provide results of sufficient statistical precision for their analysis.

The main effects of 23 different within-Maine reporting variables were analyzed based upon data received from students, schools, and Maine Department records. Specifically, the demographic, family and student, and school variables analyzed were the following:

Demographic Variables

1. Region
2. Size of Community
3. Sex

Family and Student Variables

1. Father's Occupation
2. Mother's Occupation
3. Student Job Aspiration
4. Amount of Time Parent Discussed School Work with Pupil
5. Disadvantaged Educationally or Economically
6. Parent High School Education Background
7. Reading Materials in the Home
8. Languages Other than English Spoken in the Home
9. Family Size
10. School Program Enrolled In
11. Extracurricular Activities Participation
12. Student's Attitude Toward School
13. Principal's Perception of Parental Support of School

School Variables

1. Principal's Perception of Adequacy of Personnel of His School
2. Principal's Perception of Adequacy of His School's Resources
3. Size of School
4. Pupil/Teacher Ratio
5. Average Teacher Salary Per School
6. Per-Pupil Expenditure
7. Size of School By Per-Pupil Expenditure

Data were analyzed by AIR and RTI in accordance with the objectives of the analysis plan, which were to show comparisons with NAEP results and to identify which groups of Maine's 17-year-olds are performing above or below the average performance for the state on the Citizenship and Writing exercises. Results for both the MAEP-NAEP comparisons and the within-Maine comparisons are presented in the Sections III and IV of this report.

II. DESCRIPTIVE ANALYSES

General Considerations

This section of the report on the Maine Assessment project deals with the description of the sample in terms of the estimated proportion of in-school 17-year-old reporting groups. The group characteristics will not be linked in this section to Citizenship and Writing performance results. However, an understanding of the various distributions (and in some cases interactions of distributions) will aid in assessing the pattern of results presented in the following two chapters.

From sample design and analysis viewpoints, there are two types of variables in an assessment project like MAEP. Stratification variables are those variables used to subdivide (stratify) the population before sampling so as to provide relatively homogenous groupings which give definite payoffs in the statistical precision of the results. It is possible for a stratification variable to be used both in stratification and in reporting. An example of this in MAEP data analysis plan is the grouping of secondary schools in the state into four geographic regions before sampling. It is also possible for a variable to be used in stratification but not reporting. For example, although the grade level of all 17-year-olds in each sample school was used as a stratification variable in the sample design, it will not be reported. The second kind of variable is a reporting variable, one which we do not use in sample design to stratify our sample but which we do use in the analysis phase. An example of a reporting variable in MAEP data analysis plan that is not a stratification variable is the level of high school education attained by the respondent's parents.

There were two major considerations faced by Maine Department staff and RTI data analysts when splitting the sample into reporting groups:

1. The sample size of each group would have to be of sufficient size to make precise estimates from the sample for each population group to be analyzed; and

2. The structure of the group should have "educational significance" to educational consultants, planners and decisionmakers concerned with implementing actions based on the assessment results.

The planning sessions addressed to this topic resulted in the 23 reporting variables enumerated in Appendix A to this report. The exact format by which the data were collected has been described in the methodology report of this project. Tables of sample sizes for the reporting groups and estimated population percentages are given in Appendix B.

Demographic Variables

The eight Planning and Development Districts of Maine were grouped into regions as follows:

I Northern - Northern Maine District

II Eastern - Penobscot District and Eastern Maine District

III Western - Androscoggin District, Kennebec District, and Midcoastal District

IV Southern - Southern Maine District and Cumberland District

The planners of the assessment project felt that this type of grouping would produce reasonably homogenous groupings of students on various subtle socioeconomic, ethnic, and lifestyle dimensions. Northern Maine has the smallest estimated percentage of 17-year-olds (11%), the Western region the largest (42%), and Eastern and Southern Maine each have 21% and 26% respectively.

Although the question in the Exercise Booklet (Appendix A) divided the variable size of community (SOC) into eight sizes, for reporting purposes only three are used. An attempt was made to derive categories parallel to those of National Assessment (size and type of community), but this failed due to the particular population patterns of Maine. Forty-two percent (42%) of Maine 17-year-old students are estimated to live in places with populations ranging up to 1,000 persons, and an equal percent are living in towns ranging from there up to 10,000. The remaining 16% are from centers of population 10,000 or over. Even bearing in mind that the figures reflect the students' perceptions, not actual census figures, these are in line with expectations for the state as a whole.

The percentages of students in the various SOC sizes within regions reflect the fact that 42% of all 17-year-old students are in the Western region. Forty-six percent (46%) of students in the smallest SOC category are also in Western Maine, 40% in the middle category, and 37% in the larger city category. The location of Portland in Southern Maine is reflected in 45% of the students in the large city category being from the south. The known low density of population in Northern Maine, however, is clearly demonstrated by over half of the Northern students (52%) coming from the smallest SOC category.

The third demographic variable considered was the sex of the student. Examination of the tables in Appendix B will show the virtually 50-50 split achieved within region, SOC, and for the sample and population as a whole.

Family and Student Variables

The next 13 grouping variables are discussed in terms of their region and SOC differences in order better to view and understand their distributions across the State of Maine. Appendix A gives the form of each question and the grouping of responses for reporting, and Appendix B contains tables showing sample sizes and population proportions for each of the various levels of region, SOC and the grouping variable in question.

Overall, most of the students (35%) reported their father's occupation in the skilled craftsman or foreman area, with 23% as the next largest percentage in the office, sales, manager or owner category. Seventeen percent (17%) were in the semi-skilled category, and 12% reported fathers being professional over a wide range of possibilities. Only about 10% reported their father as not working. The distribution of each occupational category across the four regions shows the Western region again the largest (over 40%) in all categories. Considering the fact that the smallest percentage of students came from the largest SOC, there appears to be a

slight piling up of professionals in this SOC category: 10% of the semi-skilled are from large cities as compared to 22% of the professionals.

Mother's occupation follows an expected overall pattern. Nearly half (45%) are not working, and only 9% are reported as professional. Again the Western Region claims the largest percent (about 40%) within each occupational category. From the equal percentages of students from the two smallest SOC categories one might expect their occupational percentages to be about equal by chance. There is evidence here, however, of a piling up of the not working and semi-skilled mothers in less dense areas, with a concomitant concentration of higher skilled persons in more dense areas. This pattern is equally evident among fathers.

The job aspirations of students were categorized into three groups based on the same choice of responses students had for parental occupation. Aspirations were distributed among the four regions as might be expected based upon the primary regional percentages. The same pattern noted of SOC differences, apparently related to occupational differences, shows up with aspirations. This would lend support to a commonly accepted thesis that children often aspire to levels attained by their parents. This idea will receive more attention in this report's discussion of the relationship between aspirations, parent education, and occupation.

The amount of parental discussion with the pupil about school could be an indicator of how important and meaningful school is in the life and future of the student. There were no significant regional differences on this variable, nor did a similar shift or tendency emerge among the SOC categories. Nearly half (44%) report daily discussions while only 13% report that discussion never occurs.

The grouping variable "disadvantaged" was a composite created for analysis purposes by considering in this category students who reported their parents as having an eighth grade education or less or whose main source of family income was from welfare. Twelve percent

(12%) of the population of Maine in-school 17-year-olds falls in this category, and it is disproportionately distributed across regions. Where Northern Maine might be expected to have about 11% of the total based on this sample, 23% are reported there while the other regions have less than might be expected. This disproportionality does not seem to hold, though, across the three SOC categories as differences appear only slightly off from expectations.

The grouping variable parent's high school education was structured for Maine in the same manner as with National Assessment, and can thus be used for comparison with the NAEP data on the Citizenship and Writing results. Not considering distribution similarities of this variable with the disadvantaged variable because of the way the latter was constructed, it can nonetheless be said that Northern Maine has a disproportionate share (23%) of students with parents with minimal education, while both Eastern and Southern Maine have less. With respect to SOC, one anomaly stands out: the "some" category of parental high school education has a disproportionate amount (58%) in the smallest SOC where about 40% might be expected, and this is at the expense of the largest SOC. This could be due to the parents having to quit high school before completion in order to go to work as a result of economic conditions of the early fifties.

A variable was constructed to try to measure the amount of reading material in the home by asking four questions related to the subject. Responses to the four were divided into two categories (all four Yes, or less than four Yes), and there were no surprises evident across either region or SOC. A slight tendency could be noted, however, for a larger amount of reading material to be in the smallest SOC category. Overall, 76% of the students report having a significant amount of reading material in the home.

Whether or not another language was spoken in the home was thought by the assessment planners to be a meaningful educational reporting category in this project because of the highly verbal and verbal reasoning

nature of the exercises in Citizenship and Writing. Whereas only 20% of the students overall reported that there is another language regularly spoken at home, these are disproportionately concentrated in Northern Maine, and less than expected in Eastern Maine.

The family size that a student comes from appears to have no regional or SOC differences. Overall for the state, 35% of the students report they are from families of size 1-4, meaning about 2 children. Thirty-nine percent (39%) are from families with 5-6 members, and the remainder (26%) report being from larger families. An exact correspondence to number of chidren is difficult, however, because respondents were asked to include all persons who were living in the same household.

Considering the school program of the students, overall, 23% report that they are enrolled in a commercial course, 13% in a vocational education curriculum, 50% say they are in a college preparatory curriculum, and 13% indicate that they are in a "general" course just to complete high school. There do not appear to be any regional differences of note. Across SOC, the vocational students are concentrated in the small communities and sparse in the large cities.

The number of extracurricular activities a student says he is engaged in at school might give an understanding about the breadth of interests and ability with groups that a student has. Overall, there is some variance associated with this variable, as 21% report none participated in, 22% report two, and 24% report three or more. The modal response was one activity (33%). A slight regional difference was noted which concurred with an SOC difference detected: Northern Maine and small SOC groups had slightly more students reporting none than might be expected.

Students in the sample were asked if they like school. Forty-six percent (46%) reported that they liked it "pretty much," and 23% said school was "so-so." Seventeen percent (17%) said that they did not like it, and 14% liked school "a lot." Regional and SOC responses followed expected patterns, except that where we would expect about 20% of the "a lot" group to be from Eastern Maine based upon the sample, 30% were. Among the SOC groupings, there was a tendency for the smaller communities to have a polarization around either end of the "like" continuum.

Each of the sampled school principals was asked to give his judgment of the parental support of the school. Students are reported by their principal's response. Overall, only 5% report no parental support or participation, 26% report the effect as slight, and 11% consider parents vital forces in the life of the school. Over half (58%) describe parents as making occasional significant contributions. Regional differences are evident along this variable. Ninety percent (90%) of the 5% overall reporting no support are in Western Maine, and while this number is not large in absolute terms it is discrepant. Another unexpected percentage is that a disproportionately high (25%) of the 11% overall reporting vital support is in Northern Maine. While there are SOC differences, they do not appear to be as clear.

School Variables

The remaining seven grouping variables pertain to the schools which the sampled students attended. Information on each was gained either by use of an instrument completed by each principal (School Principal's Questionnaire) or by selecting relevant information from Department records maintained in Augusta.

School personnel adequacy resulted from a questionnaire item which cited eight aspects of personnel assignment and the extent of availability at school. Overall for the state, 40% of the students were in schools where the principal felt that half or more of the eight aspects were covered adequately. Regional differences were slight, as were SOC differences. School facilities adequacy resulted from an additional eight items on the questionnaire, dealing with school plant aspects of the operation. In this case, over half (52%) of the students were in schools where the principal felt facilities were appropriate. There are no notable SOC differences in this case either, but among the regions there is a tendency to see lower than expected adequacy in the Eastern region and higher in Southern Maine.

From state department records the size of the school was determined. Overall, 12% of the 17-year old in-school students are in small (0-300) schools, 16% are in the 300-500 student size, 34% are in the 500-800 student size, and the balance (39%) is in larger schools. The fact

that there are disproportionately larger numbers of students from the smaller schools in the smaller SOC categories is expected, along with its opposite corollary of few students in smaller schools in large metropolitan areas. However, it appears from the data that there are very few 300-500 size schools in Southern Maine, and also few 500-800 schools in Northern Maine.

The pupil-teacher ratio for Maine appears to be rather evenly divided. Data was obtained for secondary teachers vs. secondary level students for each school, and included full time and full-time-equivalent teachers. The data divided along the following strata: 23% of the students were in schools with a pupil-teacher ratio of 18 or less, 24% with 19-20 pupils, 31% with 21-22 pupils, and 22% with a ratio of greater than 22. This seems to compare favorably with many other areas of the country reporting significantly higher classroom crowding, but there is no way in this data to tell actual class size as it relates to particular subjects being taught. Regional comparisons seem to indicate that it may be disproportionately crowded in Northern Maine and possibly quite a bit less so in Southern Maine. SOC comparisons are not clear.

There appear to be no students from either Southern Maine or from larger metropolitan centers who are in schools where the average secondary teacher's salary is less than $8,000. By contrast both Northern and Eastern Maine have more than their share of the lower paid teachers and fewer of the more highly paid teachers. As might be expected from previous discussions, smaller communities have more lower paid teachers and larger communities have more highly paid teachers. Overall for the state, secondary teacher salaries are distributed with 6% earning less than $8,000, 77% earning from $8,000 to $9,500, and 17% earning more than $9,500.

Department staff was interested in the possible effects of per-pupil expenditure on the results in Citizenship and Writing, but they realized the possibility of biased results in favor of small schools. Accordingly, two classes of size of school (above and below 500 students) and two classes of per-pupil expenditure (above and below $800) were created out of the data and are reported for region and SOC.

Per-pupil expenditure by size of school distributions across both region and SOC are highly disproportionate in many cases. Small, low expenditure schools occur more often than might be expected in Eastern and Northern Maine and in small communities, and less than expected in Southern Maine and metropolitan areas. Small, high expenditure schools occur more nearly in line with expectations. Large, low expenditure schools are sparse in Southern Maine and in metropolitan areas. Finally, to round out the picture, large, high expenditure schools predominate in Southern Maine, hardly exist in Northern Maine, and form a healthy part of the picture in the middle range of SOC. Overall only 10% of the students being reported on are from small, low expenditure schools, and only 18% are from large, low expenditure schools. Nearly half (42%) are from small, high expenditure schools, and 30% are from large, high expenditure schools.

Selected Interrelations of Reporting Variables

Out of the hundreds of 2-way tables which could be generated out of the 23 reporting variables being analyzed for this state assessment report, several were selected for their potential use in explication of results and for their general informational use. Tables 1 and 2 show some of these interrelations. The entries in these tables are estimates of the population proportion of the row totals. The estimated population proportion for the column total is given above each column, and the interested reader can contrast cell entries with these column estimators. Row proportion should add to 100 for each row; where they do not, this must be attributed to no response, categories not reported in these tables, or rounding error.

Table 1 sheds some light on relationships between father's occupation and student school program, parental education, and student aspirations. The fairly high percentages of students in non-college programs who also have fathers in less skilled occupations contrasts sharply with the higher than might be expected percentage (19%) of college-bound students from professional families. Parental education and father's occupation have about the same relationship. The relationship between aspirations and father's occupation is not as clear. Students with semi-skilled aspirations seem to come from families where the father is also in this category of occupation, and they have substantially lower aspiration levels. Students from professional families clearly want to remain that way.

Table 1

FATHER'S OCCUPATION BY SCHOOL PROGRAM, PARENT'S EDUCATION, AND STUDENT ASPIRATIONS

	Father's Occupation			
	Semi and Skilled	Office and Manager	Professional	No Response
Estimates for the State	52	23	12	
School Program				
Commercial	60	20	3	17
VocAg	64	13	7	16
General	57	19	3	22
College	44	28	19	9
Parent High School Education				
None	62	7	4	27
Some	67	13	3	17
Graduate	62	24	3	12
Post	36	29	25	10
Student Aspirations				
Semi and Skilled	63	16	6	15
Office and Manager	53	27	6	14
Professional	44	26	20	10

Table 2 shows relationships of level of parental high school education to four other grouping variables. With respect to student aspirations, students from post high school families aspire to higher level jobs rather than lower. High parental education also seems to go with more reading material in the home. Students who report that there is another language spoken in the home seem to come from families with lower parental education levels. Finally, the level of parental education seems also to be related to the amount of discussion about school matters. Lower education levels produce more "never" responses than expected, and higher education levels produce more "daily" responses than expected.

Table 2

PARENT'S EDUCATION BY STUDENT'S ASPIRATIONS, READING MATERIAL, OTHER LANGUAGE, AND PARENT DISCUSSION

	Parent's High School Education				
	None	Some	Graduate	Post	No Response
Estimates for the State	8	14	36	40	
Student's Aspirations					
Semi and Skilled	8	18	42	27	4
Office and Manager	12	19	36	31	2
Professional	5	8	30	56	1
Reading Material in Home					
Three or less	16	25	35	19	5
All Four	5	10	36	47	2
Other Language in Home					
Yes	21	18	33	25	3
No	4	13	37	44	2
Parent Discussion with Student					
Never	13	18	38	24	6
Monthly	11	16	42	28	3
Weekly	7	14	38	39	2
Daily	6	12	32	49	2

Summary and Conclusions

An overall picture seems to emerge wherein Northern, and to a lesser extent Western, Maine have a relatively low population density combined with a slightly higher than might be expected amount of semi-skilled fathers and non-working and employed semi-skilled mothers. There are also more "disadvantaged" families there, within the definition of disadvantaged in this report, as well as a lower overall level of parental high school education. Teacher salaries are lower there, classrooms may be more crowded, and more instances of another language being spoken in the home are reported. However, the amount of reading material in the home may be more in areas of low density, and principals from these areas report more often the parents are a vital force in the life of the school.

Some interrelations of variables other than region and SOC were explored to demonstrate that in Maine, as most probably anywhere else, the occupation of the head of the family has a great deal to do with the level of his own education as well as both the school program and job aspirations of the son or daughter. Furthermore, the importance of the educational background of the family is demonstrated by its effect on the student's aspirations (possibly confounded with father occupation), the amount of reading material in the home (possibly confounded with there being more in extremely rural areas), and amount of parental discussion with the pupils (possibly confounded with a host of other factors).

III. COMPARISONS WITH NATIONAL ASSESSMENT

This section of the report is concerned with contrasting various groups of Maine students with analogous NAEP subgroups. There are eight groups of in-school 17-year-old students for which comparisons will be reported:

1. State of Maine versus the nation.
2. State of Maine versus the Northeast section of the United States.*
3. Maine males versus U. S. males.
4. Maine females versus U. S. females.
5. Four groups defined by level of parent's high school education within Maine versus the same four groups for the U. S. These levels are:
   a. None beyond eighth grade.
   b. Some beyond eighth grade but not graduated.
   c. Graduated from high school.
   d. Post high school education, any amount.

Numerical differences between subgroups in estimated p-values are presented in Table 3 (p. 40). However, Table 4 (p. 41) presents these differences by the use of codes to indicate the significance of these differences. Seven different codes were developed to signify the results obtained by dividing each p-value difference by its standard error, i.e., a difference divided by the best estimate of the variability of that difference. This calculation results in a t-ratio whose significance (probability of occurrence by chance) can be estimated by reference to a table of the normal distribution.† The codes used and their meanings are as follows:

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*The states of NAEP's Northeast region are: Delaware, Maine, New Hampshire, Vermont, District of Columbia, Maryland, New Jersey, New York, Connecticut, Pennsylvania, Massachusetts and Rhode Island.

†Our objective in using this procedure was not simply to test the null hypothesis that the group performance is equal to the national performance as t-ratios are commonly applied in the analysis of data, but in addition to use the t-values or their symbolic codes (i.e., ++, 00, etc.) to identify patterns of relationships within the data. Future analyses could be concerned with adjusting these univariate results on the basis of other factors which NAEP currently does using "balanced fits."

Code	t-ratio	Significance Level and Direction
+★	≥ 3.0	highly significant positive, > .01
++	$2.0 \leq t < 3.0$	significant positive, > .05
0+	$1.5 \leq t < 2.0$	marginally significant positive, > .10
00	$-1.5 < t < 1.5$	not significant
-0	$-2.0 < t \leq -1.5$	marginally significant negative, > .10
--	$-3.0 < t \leq -2.0$	significant negative, > .05
-★	$t \leq 3.0$	highly significant negative, > .01

All exercise and subgroup estimated p-values, differences in estimated p-values, estimated standard errors, group sample sizes, and t-ratios associated with the entries in Tables 3 and 4 can be found in Appendix E.

Citizenship

1. Show Concern for the Welfare and Dignity of Others

Knowing where and how to use public agencies and their services is a key civic skill. The person who knows where to get such services is also better able to help and advise others in addition to meeting his own needs. Ninety-one percent (91%) of students in Maine were able to state an acceptable place to report a malfunctioning traffic light, virtually the same percentage as students nationwide. They were far more frequently able to specify a place to get a dog license. Eighty-five percent (85%) of Maine students gave an acceptable answer, as compared to 69% of the national sample.

Maine students fell below the national average in knowing where to report a danger to public health, such as garbage in the streets (88% as compared to 92%). Perhaps the relatively uncrowded character of Maine, the existence of rural areas, and/or efficient city and town services account for Maine students' lesser awareness of where to report health hazards. The higher awareness of students from the Northeast (95%) may stem from living in highly urbanized areas where such conditions may occur more frequently.

Maine consists largely of small communities in which government structure is relatively simple. Compared to a large city with a complex of different agencies for special purposes, in a smaller town people see the town manager or their selectman for almost any municipal problem. This may explain their greater-than-average knowledge of where to get a dog license. On the other hand, public health hazards, such as garbage in the streets, may well occur less commonly in Maine than in urban areas and thus account for the finding that fewer Maine youth know where to report such hazards.

Defending the rights of others, including members of minority groups, is a clear means of demonstrating concern for the well-being of others. Ninety-four percent (94%) of Maine students, approximately the same as for the United States, felt that they should take some action if they saw minority group children excluded from a public park because of their race. Maine students were significantly better able to give two or three acceptable actions they could take than students in the nation and the Northeastern part of the U. S. For example, 76% of Maine students stated two actions, while the national percentage was 56%, and the Northeast percentage was 54%. In the National Assessment each student was interviewed individually about the park situation, whereas Maine students wrote their answers to the question. Since it seems more likely that students would say they should do something, the socially desirable answer, when being interviewed individually, the responses of the Maine students are even more noteworthy since they were written anonymously. On the other hand, the interview situation may pressure students to give up more quickly if they cannot think of another answer immediately.

Students were also asked about their willingness to associate with people of other races. In every case Maine students significantly more often said they were willing to associate with other races than did the nation's students as a whole. The questions were: would they be willing to have a person of a different race be their dentist or doctor, be willing to have a person of another race live next door to them, have someone of another race represent them in public office, sit at a table next to theirs in a crowded restaurant, or stay in the same hotel or motel as they. Ninety-eight percent (98%) of Maine students reported willingness in three or more of these

situations, compared to 88% for the nation and 94% for the Northeast. The very large margin by which Maine 17-year-olds were more willing to associate with persons of a different race may reflect in part the ethnic situation in Maine. Maine has an extremely small non-white population. At the 1970 census there were about 2000 Indians, 2200 Blacks (mostly in Portland and Augusta) and 4000 members of other races, out of a total population of one million. Since most Maine students have little or no contact with minority races, it may well be that their attitudes, while positive, have not been tested in actual situations.

At the same time social discrimination of other kinds may be underestimated by asking only about race. Many job discrimination cases in Maine involve French-Canadian Americans, whom very few whites would classify as a different race. Nevertheless, the very positive stated attitudes of Maine youth toward other races is a valuable achievement. Expression of such a viewpoint probably encourages similar views in others and provides a more favorable context for inter-racial harmony and for sanctions against discrimination.

2. Support Rights and Freedoms of All Individuals and Recognize the Value of Just Law

In order to protect their rights and the rights of others, citizens need to know their constitutional rights and be willing to insist that these rights be guaranteed to everyone. One important constitutional right is to express publicly one's opinions, and here Maine students scored at the national average. They were presented with three statements and were asked whether a person on radio or TV should or should not be allowed to make these statements. On the first two statements Maine results closely matched national results. Fifty-seven percent (57%) of Maine students said a person should be allowed to say, "Russia is better than the United States," and 36% of Maine students would permit the statement, "Some races of people are better than others."

Maine students were significantly more willing to allow a person to say, "It is not necessary to believe in God," 60% compared with 49% for

the nation. Of course free speech rights are easier to defend when the expressed views agree with one's own, and these three statements present diverse positions of which an individual is highly likely to oppose at least one. Therefore, allowing all three statements is probably the best indicator that the respondent fully understands that free speech is a right in virtually all circumstances. Maine students were more willing to permit unpopular views to be expressed than were students nationwide, 29% compared to 22%.

Although proportionally more Maine students than in the nation would permit the three statements to be made, there is cause for concern when only 23% were willing to cite free speech as a reason. Certainly the statements selected for use in the assessment are not extremely inflamatory, so it is likely that an even smaller percentage of students could be counted on to support statements which directly countered their own positions on sensitive issues.

Schools and educators might not encourage students to exercise their rights of free speech. Maine schools probably do not differ substantially from this pattern, and therefore probably have little impact on students' attitudes about free speech rights. If educators were willing to view schools as arenas to prepare for active citizenship, including participation, a higher percentage of students might become committed to free speech and other constitutional rights.

In contrast, 78% of Maine students knew that the police do not have a right to enter someone's home whenever they want to, and gave as a reason legal guarantees or need for consent from the occupant. This is almost four times as many Maine students as were willing to guarantee free speech. Ninety-one percent (91%) of the 17-year-olds nationwide said that police do not have the right to enter, but they were interviewed individually. Maine students wrote their own answers, and the different question formats may account for some of the difference in results.

Virtually all students were able to give at least one reason why laws are needed--almost 100% of the nation's 17-year-olds--and 70% of Maine's 17-year-olds and over 63% of each group were able to give three acceptable reasons. Maine students did slightly better than national and Northeastern

students, but this difference may be largely accounted for by the fact that Maine students were given five numbered lines to record responses, while NAEP students were individually interviewed and were not told that five answers were expected.

Students were presented with a situation in which two men were arguing about a debt, and students were asked what way the government provides to settle their argument. Sixty-six percent (66%) of Maine students correctly stated that the legal system provides channels for settling such arguments, whereas 74% of NAEP students and 76% of students in the Northeast responded correctly.

Let us not lose sight of the overall national failure in which Maine shares. The percentage favoring free speech for the unpopular is dangerously small for a nation whose form of government depends on free expression of opinion. Nationally, school-age youth do not appreciate this freedom as much as adults do (a 6% difference), which clearly suggests that the schools could do better. Freedom of speech as an abstract principle is lauded in nearly all schools, but how many teach that the freedom covers outrageous views as well as more acceptable ones? The nation's schools themselves often do not practice what they preach. Both student and teacher viewpoints are often suppressed to avoid controversy and embarrassment. States such as Maine which are taking the lead in assessing their own civic education might do well to reexamine how their schools promote or degrade civil liberties. Surely this is a top-priority need for reform in citizenship education.

3. Know the Main Structure and Functions of Government

School courses in civics and government usually emphasize mastery of factual knowledge about governmental structure and functions. It is commonly felt that being familiar with the workings of the government enables citizens to monitor government performance and assure that it is functioning as it should.

Students were asked, "Why do we have a government?" Maine and NAEP students were about equally able (92% and 95%) to give an acceptable reason. While it is possible that some students knew a reason but had difficulty writing it, we might well expect virtually every student to be able to give an acceptable reason.

The fact that the U. S. Congress is composed of the House of Representatives and the Senate is drilled into children from elementary school on. It is rather surprising that only 93% of Maine 17-year-olds and 94% of the nation's 17-year-olds, given the House, correctly selected the Senate from five choices as the other house of Congress. Northeast students did better--97% gave the correct answer.

Having at least two candidates running for an elective office gives voters some choice. Maine and NAEP students selected the correct response equally often--93% and 94%.

Knowing the names of incumbent government officials is a good yardstick of the extent to which the respondent is monitoring government activities. Virtually all students correctly named the President. Ninety-one percent (91%) of Maine students knew the name of the Vice President, compared with 84% of the national sample. These differences may be accounted for in part by the testing dates. NAEP data was collected during the 1969-70 school year, approximately one year after these government officials assumed office. Maine data was collected two years later, after these officials had received considerable media coverage, and during hotly contested presidential primaries. Maine has a relatively small population, about 1 million, and has two Representatives. Only 39% knew that a state might have more Senators than Representatives when it has a small population, but 54% of the national sample answered correctly. Perhaps the fact that Maine has an equal number of Senators and Representatives obscured the relationship between population size and number of Representatives.

Students were asked, "Does the President have the right to do anything affecting the United States that he wants to?" Eighty-four percent (84%) of Maine students correctly responded "No," about 4% more than the NAEP sample, but only 53% of the sample gave an acceptable reason why he does not have the right, compared to 73% nationwide. The individual interview used in NAEP called for probing the respondent to get a clear reason, while in Maine students wrote their own answers and there was no opportunity to probe for a more complete (and therefore more acceptable) answer.

Somewhat more Maine students (90%) than NAEP students (86%) were able to state a reason why elected representatives often try to vote the way their constituents want them to. In Maine elected officials frequently visit their constituents, and Maine citizens tend to be critical of perceived failings during these visits.

Maine students' knowledge of basic government function and structure is a mixture of strengths and weaknesses. They generally fell behind the Northeastern region of the U. S., but perhaps being farther from Washington, D. C., makes a difference.

Many of the differences between Maine and other regions can be attributed partly to transitory changes in government events in the past two years, or to differences between Maine and other states in governmental structure. For example, not only does Maine coincidentally have the same number of U. S. Representatives as it does U. S. Senators, possibly adding confusion, but also, unlike most states, Maine's method of choosing state legislators differs markedly from the federal system. In Maine state senators are chosen by counties on the basis of population. Representatives are elected from districts consisting of a city or one or more towns. To the extent that the respondent confused the state and federal government, he might be expected to do worse than his peers in other states in which the state senate and assembly are elected by methods parallel to those of the Congress.

Although 90% of Maine students understand why representatives might be responsive to their constituencies (vs. 86% nationally), only about half (53%) of Maine 17-year-olds named a reason why the President could not do anything he wants. Understanding and preserving the separation of powers and the attendant checks and balances among branches is so fundamental to survival of our form of government that this result seems to call for specific remedial action. Hopefully Maine school districts will examine their own programs to determine whether revision along this line is needed. The national percentage was 73% but perhaps the difference is exaggerated by the change in format from interview with probe to paper-and-pencil. Another possibility is that the

whole nation has slipped in the two-year interval between the NAEP and Maine administrations, and that the whole country is forgetting what constitutional limits there are to a President's power.

4. Participate in Civic Action

Students acquire the capacity for effective civic participation by developing skills in group interaction and communication, and by learning how they personally can influence civic decisions. There are also many opportunities for students to participate in actual civic decisions, both in school and in the larger community. For adults, voluntary participation in planning and improving society is the substance of their input to government. The amount and quality of their input determines the degree to which we have democratic government.

The New England tradition of town meeting government might support the hypothesis that Maine 17-year-olds would be more active, in local government at least, than their peers in other regions. Yet 10% fewer in Maine think they can influence state government and give a reason. One interpretation is that Maine citizens and schools focus their attention mostly on local government and rely less on state and federal governments than do citizens in other states. Since Maine schools are far less directly regulated by a state system (as in California and other states), and local cities and towns have more involvement in school operations, it may be that 17-year-olds who have spent most of their time in schools do not see the state government as a significant factor in their lives, compared to their peers in other states at least, and so have given less thought to how to influence it.

In Maine, as in the nation as a whole, few people write to editors. This is no problem unless it is symptomatic of civic communication in general. That is, is it also true in Maine (as in the United States) that few people communicate their views to political leaders? How often do they share views on civic issues with friends and neighbors? Maine schools might consider it worth the effort to learn in greater depth the extent to which Maine youth (and adults) do try to communicate their views, and if so, how. The nationally low awareness of how citizens can participate in government decision-making is shared by Maine and, along with civil liberties, represents the

second major challenge to schools to improve citizenship education. Teachers could involve their students in active participation, teach them means of action, help to identify issues and needs, and stimulate a response from government officials through group projects and communications.

5. Understand Problems of International Relations and Approach Civic Decisions Rationally

The quality of civic decisions depends mainly on the quality of thought of the people who make those decisions. Good ideas often just "come to mind" intuitively. Nevertheless, decisions can often be improved by the support of rational skills. Becoming informed, weighing communications for the relevance and objectivity, analyzing causes and effects--these are rational skills useful to every citizen. The exercises used to assess achievement of these skills dealt specifically with the following three aspects:

a. Recognizing important social problems.
b. Being aware of means for dealing with these problems.
c. Considering alternative viewpoints openly and critically.

The National Assessment revealed that rural 17-year-olds fell 13% below the national average in naming important world problems. Although Maine is a predominantly rural area, Maine does not follow this pattern. Maine students did as well on this exercise for the most part as their peers throughout the nation and the Northeast, and did 4% better in naming three or more world problems. It should be noted that this exercise was administered in an individual interview in National Assessment whereas in Maine students wrote their answers. This may have had some effect on the comparative results, but it is not at all obvious in which direction the bias would be.

In order to sample understanding of a particular social issue, students were asked why workers organize into unions. Here Maine youth fell 15% below the National percentage (44% versus 59%) and 20% below the Northeast. Unions are less common in Maine than in highly urbanized states, and this may account for such a result. It is apparent that awareness of social problems may vary substantially according to the topic, making it difficult to generalize this result to achievement of the larger objective. Nevertheless, the relation of employer to employee in the concept of collective bargaining

is important in our society, and Maine curriculum planners might do well to reexamine this specific area of knowledge and try to correct the deficiency.

About 8% more Maine youth suggested two or more ways to avoid future wars than their peers in the nation. As in the exercise asking them to name world problems, this exercise called for written answers in Maine as opposed to spoken responses in the NAEP interview. Youth from Maine and elsewhere seem generally more conversant about major world problems such as war than about domestic economic issues such as collective bargaining.

The same could be said for the domestic issue of the draft and whether some people should get educational deferments. The main purpose of the deferment exercise was not to examine the issue of the draft, however, but to determine the extent to which the students were able to see both sides of an issue. Only 16% could state an argument on both sides of the deferment issue, but this estimate should probably be considered too low for social issues in general, since educational deferment is becoming an obsolete question. Also, because of the fact that the gap between Maine and the nation in percent stating reasons on both sides was if anything smaller than the gaps in percent stating a reason for either side alone, it is likely that Maine youth are as open to considering both sides of an issue as their peers elsewhere in the country.

Another aspect of judging civic information critically concerns understanding potential biases and the sources of information. One exercise asked why more than one newspaper publisher would be desirable in a city. A high percentage of Maine students (87%) stated the advantage that more than one viewpoint could be represented, an achievement only slightly less than the national level (92%) and the Northeast (94%). Since Maine has few large cities and many have only one newspaper, this could be considered an expected level of achievement corresponding to other primarily rural areas in the country, which also fell a few percentage points below the national results in the National Assessment.

Although achievement varies from exercise to exercise, Maine youth appear to be as generally informed and rational in their approach to civic

Issues as are students in the nation as a whole. As in the rest of the nation, the stereotype of the male as the more rational sex got no support in the Maine results. On the two exercises which concern weighing opposing viewpoints, females surpassed males by about 5% in Maine.

6. Take Responsibility for Own Development

A large percentage of students in Maine (71%) reported that they had talked about their plans for education or jobs with their parents or guardians and with a teacher or school counselor, eleven percent (11%) more than for the NAEP respondents (60%). Perhaps Maine high schools are smaller and students less anonymous than counterparts in other parts of the U. S. Girls are somewhat more likely to discuss their plans--74% reported discussions with both parents or teachers, compared to 68% of the boys.

7. Summary Interpretation

Reviewing all Citizenship results together, the tendency was for Maine 17-year-olds to surpass the national achievement level on concern for the well-being of others and respect for their rights as individuals. However, national achievement was so low on the rights issue (free speech) that Maine should not take comfort. Better understanding of constitutional freedoms in real life and practical skills of citizen participation are the two main challenges to civic educators in Maine, as in the whole nation.

In other aspects of civic knowledge and behavior Maine sometimes did better and sometimes worse, with no general trend evident. One thing made clear by this assessment is that good citizenship is not one general cluster of actions which some youth do well and others do badly. Achievement levels vary widely, both among general goals and among specific types of achievement within a goal.

Writing

1. Results

There were seven Writing exercises administered in the Maine Assessment project. Although grouped by NAEP into three goal categories, they can also be grouped into the following functional categories:

Performance Exercises: These exercises require the respondent to do a writing task or to show awareness about some facet of writing. Such exercises are divided into essay or nonessay groups.

Essay Performance Exercises: Example exercises are writing a composition about a famous person and giving explicit directions to do something.

Nonessay Performance Exercises: Example exercises of this kind are writing a short business letter to order merchandise and filling out an application blank.

Self-Report Exercises: These exercises were designed to ascertain attitudes of a respondent toward writing. Example exercises of this kind are asking whether the respondent had written a mail order or a message for someone in the past 12 months, and inquiring if the respondent has ever done certain kinds of creative writing not required as a school assignment. It is assumed that a "yes" response to questions asked in these three exercises indicates appreciation of the value of writing and/or an interest in writing. A weakness of self-report exercises is that the respondent may not always tell the truth.

Of the three self-report exercises in which respondents tell if they have done specified kinds of writing, Maine results were significantly higher than NAEP results for the exercise concerning whether the respondent had written a letter to order something through the mail in the past 12 months. The difference (6%) between percentages for Maine and the nation was very close to being significant. Ninety-six percent (96%) of Maine females stated that they had left a written message for some person in the past 12 months, whereas 91% of NAEP females reported leaving written messages. This 4% difference is just slightly significant and points up the fact that when percentages are near 0 and 100, small differences turn up significant and are hard to account for in some instances. When one notes the NAEP results for the four groups under parental high school education, there is an

increasing percent of respondents who have left written messages as the extent of parental education increases; this direct relationship is evident in both Maine and NAEP results for several exercises. The percentage of Maine respondents whose parents had no high school education is a significant 17% higher than the NAEP result for the same national group.

In the nonessay performance category, seven of eight Maine group comparisons (respondents whose parents had no high school education being the exception) were significantly higher than national percents for the exercise which entailed writing a letter to order sea horses. On the other hand, differences between Maine and national percents for correctly filling in all six lines of the application blank show a Maine deficit for four of the eight group comparisons reported; however, only Maine males were significantly lower than national males. A respondent was given an acceptable score if all six lines were filled in with appropriate information. This exercise was an example where extent of parental high school education in Maine and the nation show a direct relationship to the percentage of respondents successfully performing the required task.

Concerning ordering something via mail, Maine results are by and large significantly higher than NAEP percents. To write an acceptable letter ordering the sea horses, respondents had to include in the content what product was wanted and the sender's address; they may or may not have written something about payment. To account for Maine 17-year-olds' superiority on these two exercises, one merely can conjecture that they have had more experience writing mail orders and/or are simply more precise business letter writers.

Finally, in assessing students' essay performance capabilities, the respondent was asked to think about a famous person he or she admires for some particular quality or characteristic and write an essay to show why the famous person is admired for this characteristic or quality. Two judges independently scored the exercise on an eight-point scale and then their ratings were added so that each essay was scored from 0 to 16. The results reported are the percentages computed for the three distributions of essays with scores of 4 or greater, 10 or greater, and 13 or greater. None of the

Maine results was significantly above or below national percents at the 4 or greater level; however, the -9% difference for Maine respondents whose parents had no high school education was only .5% away from being significantly lower than the same national group.

For the other two score distributions reported, 15 of the 16 Maine group comparisons were significantly lower than national results. Of course, one would surmise that the percentages of students receiving a score of 13 or more for both Maine and the nation would not be very large; the biggest deficit for Maine for this level was -11% which was the difference between the Northeast and Maine. The eight lower Maine differences for scores 10 or greater ranged between -12% and -21%; again the largest difference was between percents for Maine and the Northeast.

Females in Maine and throughout the nation did considerably better than their male peers at writing essays as one would expect,* but the respective difference percentages (Maine minus National) for the two sexes in Maine varied by only 3%. Again, the fact that the higher the educational attainment of a parent the better the school performance of the child is confirmed by both Maine and NAEP results, particularly for the percentages for the distributions of scores 10 or greater and 13 or greater.

Maine results reported for the exercise asking the respondent to write directions to do something cannot be compared with National percents since Maine used different scoring criteria than NAEP.

2. Summary

Maine 17-year-olds wrote better business letters to order something and reported having written more mail orders than their national and regional peers. Nearly half of Maine residents live in rural areas and are thereby more isolated by distance. This might account for these results.

Among respondents whose parents had no high school education, the percent who stated they had left a written message for some person in the last 12 months was a significant 17% higher in Maine than in the nation as a whole, and approximately equal to the percent who did so in the "some high

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*National Assessment of Educational Progress (NAEP), Report No. 5, WRITING. Education Commission of the States, Denver, Colorado, 1971. "Females perform better than males at all four ages, but their advantage is greater for 17s and adults than for 9s and 13s." (P. iii)

school" and "high school graduate" groups. Perhaps in Maine more than elsewhere, teenagers in lower-education families work away from home and so must leave more written messages.

Maine results for essay writing were significantly lower than national and regional percentages. This may reflect the general tendency nationally for smaller communities and rural areas to do less well on the more academic achievements. To some extent this may also reflect less emphasis on scholastic writing in schools.

Table 3

DIFFERENCES BETWEEN NAEP AND MAEP SUBGROUPS*

	Result Code	Maine vs. U.S.	Maine vs. N'East	Maine Males vs. U.S. Males	Maine Females vs. U.S. Females	Maine vs. U.S. Parent HS Education None	Some	Grad	Post
Maine Sample Size		1749	1749	874	875	154	242	626	675
Citizenship									
I-1	Public Park	2	1	2	2	-5	5	1	3
I-2	Park Actions	20	22	18	22	19	29	19	20
I-3	Willing	9	4	11	8	12	13	7	11
I-4	Traffic Light	0	-2	-1	1	2	-4	4	0
I-5	Public Health	-4	-8	-5	-4	-14	-7	-2	-4
I-6	Dog License	17	18	14	19	17	7	18	21
II-1	Police	-13	-10	-17	-9	-15	-15	-11	-14
II-2	Russia	4	-1	4	3	10	7	2	5
II-3	Races	4	2	4	4	3	2	5	6
II-4	Believe	10	3	12	9	15	10	15	9
II-5	All Three	7	3	8	6	13	5	6	10
II-6	Free Speech	4	0	4	5	13	4	4	5
II-7	Why Laws	6	4	2	11	11	10	4	7
II-8	Argument	-8	-10	-10	-7	-13	-1	-9	-9
III-1	Why Government	-3	-2	-3	-2	-2	3	-3	-3
III-2	Presidential Power	-20	-24	-22	-18	-27	-13	-19	-21
III-3	Two Candidates	-2	-2	0	-3	3	-3	0	-2
III-4	Voting	5	2	4	6	0	5	5	7
III-5	Senate	-1	-4	-2	-1	0	1	-1	0
III-6	Senators	-14	-15	-14	-15	-7	-13	-13	-14
III-7	Vice President	8	3	6	9	10	14	9	7
III-8	Four Officeholders	NAEP Comparative Data Not Available							
IV-1	Influence Government	4	-4	1	6	9	0	5	6
IV-2	Influence State Government	-10	-3	-10	-9	-3	-13	-10	-6
IV-3	Letter to Editor	-1	-3	0	-1	0	1	-3	0
V-1	Future Wars	8	7	2	14	-1	12	11	9
V-2	World Problems	4	2	3	4	5	7	5	3
V-3	Labor Unions	-15	-20	-18	-13	-15	-9	-12	-16
V-4	Deferments	-17	-22	-18	-16	-27	-22	-14	-15
V-5	Newspapers	-5	-7	-7	-3	-10	-5	-4	-3
VI-1	Future Plans	11	9	13	10	13	25	14	8
Writing									
A-1	Famous Person (Low)	1	0	0	1	-5	4	2	0
A-2	Famous Person (Medium)	-14	-21	-16	-12	-10	-15	-14	-12
A-3	Famous Person (High)	-8	-12	-7	-9	-2	-7	-9	-8
B-1	Directions	NAEP Comparative Data Not Available							
B-2	Sea Horses	14	10	12	17	8	20	21	11
B-3	Application Blank	-3	-9	-9	3	2	3	-1	-4
C-1	Wrote Letter	6	5	5	8	14	8	3	8
C-2	Creative Writing	NAEP Comparative Data Not Available							
C-3	Written Message	3	2	2	4	7	5	4	2

The numbers in this table represent p-value differences between Maine subgroups and analogous subgroups as indicated by the column heads. Where the tabular value is negative (minus) the Maine p-value is below the comparative subgroup.

* The estimated p-values, differences in estimated p-values, estimated p-value standard errors, group sample sizes, and t-ratio values are found in Appendix E.

Table 4

CODED DIFFERENCES BETWEEN NAEP AND MAEP SUBGROUPS*

Result Code		Maine vs. U.S.	Maine vs. N'East	Maine Males vs. U.S. Males	Maine Females vs. U.S. Females	Maine vs. U.S. Parent HS Education None	Some	Grad	Post
Citizenship									
I-1	Public Park	0+	00	00	00	-0	00	00	++
I-2	Park Actions	+★	+★	+★	+★	++	+★	+★	+★
I-3	Willing	+★	+★	+★	+★	+★	+★	+★	+★
I-4	Traffic Light	00	--	00	00	00	-0	0+	00
I-5	Public Health	-★	-★	--	--	-★	--	00	--
I-6	Dog License	+★	+★	+★	+★	++	0+	+★	+★
II-1	Police	-★	-★	-★	-★	-★	-*	-★	-★
II-2	Russia	++	00	0+	00	00	00	00	0+
II-3	Races	++	00	0+	0+	00	00	0+	++
II-4	Believe	+★	00	+★	+★	++	0+	+★	+★
II-5	All Three	+★	0+	+★	+★	+★	00	++	+★
II-6	Free Speech	++	00	0+	++	+★	00	0+	0+
II-7	Why Laws	+★	00	00	+★	00	++	0+	++
II-8	Argument	-★	-★	-★	--	-0	00	-★	-★
III-1	Why Government	-★	-0	--	--	00	00	--	--
III-2	Presidential Power	-★	-★	-★	-★	-★	--	-★	-★
III-3	Two Candidates	--	-0	00	--	00	00	00	--
III-4	Voting	+★	00	0+	+★	00	00	++	+★
III-5	Senate	00	-★	00	00	00	00	00	00
III-6	Senators	-★	-★	-*	-★	00	-★	-★	-★
III-7	Vice President	+★	0+	+*	+★	00	+★	+★	+*
III-8	Four Officeholders			Did not compare to NAEP					
IV-1	Influence Government	0+	00	00	++	0+	00	00	++
IV-2	Influence State Government	-★	00	-★	-★	00	--	-*	--
IV-3	Letter to Editor	00	00	00	00	00	00	-0	00
V-1	Future Wars	+★	++	00	+★	00	++	+★	+★
V-2	World Problems	+★	++	++	+★	00	+★	++	++
V-3	Labor Unions	-★	-★	-★	-★	-0	-0	-★	-★
V-4	Deferments	-★	-★	-★	-★	-★	-★	-★	-★
V-5	Newspapers	-★	-★	-★	--	--	00	--	0+
VI-1	Future Plans	+★	+★	+★	+★	0+	+★	+★	+★
Writing									
A-1	Famous Person (Low)	00	00	00	00	00	00	00	00
A-2	Famous Person (Medium)	-★	-★	-★	-★	-0	-★	-★	-★
A-3	Famous Person (High)	-★	-★	-★	-★	00	--	-★	-★
B-1	Directions			Did not compare to NAEP					
B-2	Sea Horses	+★	+★	+★	+★	00	+★	+★	+★
B-3	Application Blank	-0	--	-★	00	00	00	00	-0
C-1	Wrote Letter	+★	0+	0+	+★	++	0+	00	+★
C-2	Creative Writing			Did not compare to NAEP					
C-3	Written Message	+★	00	00	+★	+★	0+	++	0+

The codes in this table represent t-ratios between Maine subgroups and analogous subgroups as indicated by the column heads. Where the tabular value is negative (minus), the Maine subgroup is below the comparative U.S. subgroup.

* The estimated p-values, differences in estimated p-values, estimated p-value standard errors, group sample sizes, and t-ratio values are found in Appendix E.

IV. WITHIN MAINE ANALYSES

This section of the report is concerned with contrasting various groups within Maine defined by demographic, family and student, and school variables defined in Section II and described in detail in Appendix A. Tables 5 and 6 (pp. 52-63) present differences and coded differences between estimated p-values of the various subgroups within Maine in a manner analagous to Tables 3 and 4 in Section III dealing with the MAEP-NAEP differences. The codes indicating significance of t-ratios are the same.*

Whereas the MAEP-NAEP discussion was organized in terms of NAEP goal groups, this discussion of within-Maine contrasts is organized by categories of reporting variables. Examination of the data revealed that this would be a more meaningful way of presenting the extensive and often complex results to the reader. Cursory examination of Tables 5 and 6 indicates that there is a large number of findings that could be discussed. Consequently, the approach that will be taken in this discussion is to indicate, where possible, patterns in the data. Also, only table entries that are highly significant, i.e., +✱ or -✱, will be discussed in this section.

Actual estimated p-values, differences in p-values, standard errors, sample sizes, and t-ratios associated with the entries in Tables 5 and 6 can be found in Appendix D.

Demographic Variables

The demographic variables considered in the analyses were region, size of community, and sex. Greater detail on the definitions of the region and size of community variables can be found in the methodology report and in Section II of this report.

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*Our objective in using this procedure was not simply to test the null hypothesis that the group performance is equal to the state performance as t-ratios are commonly applied in the analysis of data, but in addition to use the t-values or their symbolic codes (i.e., +✱, 00, etc.) to identify patterns of relationships within the data. Future analyses could be concerned with adjusting these univariate results on the basis of other factors which NAEP currently does using "balanced fits."

1. Citizenship

There was no clearcut pattern indicating consistently higher or lower performance on the part of any region(s). There was a slight tendency for the children in Southern Maine to perform better than Maine in general. The results for size of community are more consistent than the region results in that children in small towns (1-1,000) performed consistently below the state and children from larger cities (>10,000) exhibited a tendency to perform above the state. The size of community findings are expected since rural children are more likely to come from homes in which there are less well-educated parents and lower occupational levels as contrasted to non-rural children. All of these life situation factors are highly related to Citizenship performance as shall be seen subsequently in this report. It is interesting to note that while a significantly higher percentage of rural children relative to non-rural children reported that they would be willing to take some kind of action in the public park situation where minority group children were being discriminated against, they were less likely to be able to report 2 or more actions that they would be willing to take.

There were some interesting sex differences. Males were less likely to intervene in the park situation, but were more likely to have reported that it should be permissible for a person to make public generally unacceptable statements concerning Russia, race, and religion. One might say that females in Maine are more tender hearted yet more conservative than males. Females were less likely to know the function of labor unions, but were more likely to write acceptable responses concerning the avoidance of future wars, reasons for and against deferments, and the desirability of having more than one newspaper publisher in a city.

2. Writing

Children in the Southern region had a higher probability of being able to write accurate and specific directions, and correctly fill out an application blank. They also reported more frequently that they had produced one or more creative writings. However, the differences among regions were by no means substantial. Rural children performed below the

state in writing an essay and writing a set of directions. As expected,* females did substantially better than males on all but one writing task, reporting to have written a letter to order something within the last year.

Family and Student Background Factors

The family and student background factors can really be divided into two categories. The first category is comprised of external factors in the student environment. These factors include father's occupation, mother's occupation, parent discussion with pupil, "disadvantaged," parent education, reading material in home, other language spoken, family size, and type of school program in which the student is enrolled. The second category of factors is comprised of attitudinal, motivational, and behavioral characteristics of the student himself, such as job aspirations, degree of liking school, and participation in extracurricular activities. The factors in the first category have been consistently found in previous research to be highly related to academic achievement in diverse areas. These factors themselves probably do not cause higher achievement, but are surrogate measures reflecting more basic determiners of achievement in the student's environment. For example, the high association of mother's and father's occupational and educational level with achievement might be explained on the basis that highly educated parents encourage and motivate the child to succeed in school. All of the factors in this first category can be regarded as imperfect measures of an important source of variation in achievement.

1. Citizenship

The factors in the external subgroup that are most highly and consistently related to achievement in Citizenship are level of parental education and the presence of reading material in the home. Out of the 31 Citizenship exercises, only three exercises indicated no significant differences among the four parental educational levels. There were no differences among education levels in the percent of children willing to

*NAEP Report No. 5, Writing. Op. cit.

take some positive action in the public park discrimination situation, in the percent of children believing it to be wrong for police to enter his or her house anytime they pleased, and in the percent knowing at least one purpose of government. That the reported willingness to help a minority group member did not vary among children of different parental educational levels is encouraging, indeed. For the presence of reading materials in the home, there were once again only three out of 31 Citizenship responses that did not reflect statistically significant differences in p-values. One of these was the police exercise which was found to be also not significant in relation to parental education. The other two insignificant exercises were knowing where to report a health hazard (garbage), and the limitations of presidential power. Both father's and mother's occupation were substantially and consistently related to Citizenship performance. Children of mothers and/or fathers employed in a professional capacity were significantly more likely to have knowledge concerning the structure and function of government, to be more liberal and tolerant of the rights of others, and to be more aware of world problems. Family size, which is sometimes used as a component in socioeconomic level indices (since lower income people have, in general, larger families), was not substantially or consistently related to Citizenship performance.

Children from families who spoke some other language besides English in the home were fairly consistent in performing below the children of parents who only spoke English. These differences in performance should not be interpreted as meaning that bilingual homes have detrimental effects on the children's performance. A more likely interpretation relates to the fact that many bilingual homes are also more likely to have less reading materials available and have parents at lower educational and occupational levels. These factors in turn are indirect measures of important determiners of behavior which are consistently and substantially related to achievement.

Those children who were classified as disadvantaged on the basis of their parents being on welfare or having never been to high school performed at a level that was substantially below the state performance.

One of the most interesting findings concerning student background factors is that children of parents who discuss school daily with their children performed significantly above Maine on the majority of exercises reflecting five of the Citizenship goals but did not score substantially higher on exercises reflecting their tolerance in respecting the rights of others (Goal II). In other words, extent of parent discussion is related to performance that reflects knowledge useful for being a good citizen, and to performance that reflects concern for others, but not related to performance that reflects respecting the rights and freedom of other individuals. Perhaps parent discussions are more concerned with aspects of education dealing with achievement rather than the attitudinal and socio-emotional aspects of education.

Children enrolled in college preparatory programs perform consistently and substantially above the state while children enrolled in other high school programs perform consistently and substantially below the state. Being in a college preparatory curriculum is probably not a major determinant of their higher performance. A more likely explanation is that children from favorable home situations tend to be enrolled in college preparatory programs and children from favorable home situations are also more likely to be above average performers.

The second category of child background factors (attitudinal, motivational, and behavioral) is also associated with Citizenship performance. Extent of participation in extracurricular activities and level of job aspirations are both consistently and substantially related to Citizenship performance. Probably, children from advantageous home situations are more likely to have relatively high job aspirations and participate more extensively in extracurricular activities. It is not that aspirations and participation in extracurricular activities cause better performance in the area of Citizenship. They are simply outcome variables themselves that could be a function of the child's home environment. Students who reported that they did not like school at all performed consistently and substantially

below the state on most of the outcome measures. Except for tolerating pro-Russia statements, there were no significant differences among these factors in performance on Citizenship exercises reflecting the student's tolerance of the rights and freedoms of other people.

In general, student and family background characteristics are highly associated with Citizenship performance. It must be pointed out, however, that the responses to some of these exercises involve measuring accumulated knowledge (e.g., structure and functions of government) and the responses to others involve verbal reasoning (e.g., argue for both sides of the deferment question). It is well known that children from more favorable backgrounds perform better on exercises of the latter type.

2. Writing

Most of the student and family background variables were consistently and substantially related to Writing performance. Children whose Writing achievement was significantly and consistently above the state of Maine had parents who were educated beyond high school, were employed in a professional capacity, had ample reading materials available in the home, and held daily discussions with the student concerning school. There was also a tendency for higher achieving students to come from smaller families that were not economically disadvantaged, and whose parents spoke only English. However, these latter variables were not as consistently or as substantially related to Writing achievement as the former set of family variables. It cannot be said that large families, bilingual homes, and economic deprivation cause children to be lower Writing achievers. These variables just happen to be associated with other factors that may make a difference.

The student with higher Writing achievement could be characterized as being enrolled in a college preparatory program, having high job aspirations, participating actively in extracurricular activities, and liking school. Once again, this is a profile of the better writing student and these relationships in no way imply that participation in a college preparatory program and extracurricular activities will bring about an increase in Writing achievement.

School Factors

The school factors considered in these analyses are comprised of two types: (1) objective characteristics of the school (i.e., pupil/teacher ratio, average teacher salary, per pupil expenditure, and size); and (2) perceptions by the principal concerning: (a) the importance of parental support of the school, (b) the adequacy of personnel, and (c) the adequacy of physical facilities.

Cursory examination of Tables 5 and 6 indicates that neither of these types of school factors are both consistently and substantially associated with either Writing or Citizenship behavior.

1. Citizenship

Two of the objective school characteristic factors (pupil/teacher ratio and size of school) did not show any substantial or consistent relationships with Citizenship performance. The lack of consistency can be noted by looking at the pattern of results for these two factors. In a few cases, students from schools with low pupil/teacher ratios perform significantly above Maine while in other cases schools with higher pupil/teacher ratios result in performance significantly above Maine. The same sparseness of significant entries and lack of consistency is evidenced for the size of school factor.

On the other hand, average teacher salary and per pupil expenditure showed some significant findings that were at the same time consistent. Students in schools with high teacher salaries and students in schools with high per pupil expenditures performed significantly better on five Goal II exercises all of which reflected the toleration of socially unacceptable public statements. Students characterized by either one of these two school characteristics were more likely to report that people have a right to make these public statements. In addition, students enrolled in high per pupil expenditure schools exhibited a significant tendency to know more about the main structure and functions of governments. Although these relationships are significant and consistent, they are not substantial. It is difficult to interpret the differential performance across school resource levels on this

cluster of attitudinal exercises (Goal II). One interpretation could be that schools with higher teacher salaries and schools with higher per pupil expenditures are comprised of more teachers that are tenured and feel secure enough to impart these "liberal" feelings to their students. The only interpretation that can presently be offered for the finding that students in high per pupil expenditure schools know more about the main structure and functions of government is that the high per pupil expenditure schools have the extra resources to place more emphasis in this domain through the addition of courses addressed to this subject. These Goal III exercises measure the acquisition of straightforward factual knowledge that could easily be imparted through history or citizenship courses.

Aside from these patterns, there is little evidence to indicate that small pupil/teacher ratios, high teacher salaries, and high per pupil expenditures in themselves contribute to improved Citizenship performance. This is not saying that schools and teacher do not make a difference, but rather it is saying that the measures employed in this study are too far removed from the classroom learning situation. High expenditure levels might not make an impact on the student's learning environment unless the expenditures are channelled in ways that bring about educationally significant changes in the learning environment. Other research has essentially supported the findings presented here for other diverse achievement areas.

The subjective ratings of parental support, adequacy of personnel, and adequacy of physical facilities tell basically the same story as the previous results. That is, there are no relationships that are both substantial and consistent for these three ratings.

2. Writing

Size of school and pupil/teacher ratio did not yield any findings that were both consistent and statistically significant. Average teacher salary and per pupil expenditure did show some significant trends. Students in schools whose average teacher salary was in the lowest group (less than $8,000) performed worse on the famous person essay and were less likely to

have reported that they had done any creative writing or written a message to someone. Students in high expenditure schools were more likely to have reported that they had done some creative writing while students in relatively low expenditure schools were more likely to have reported that they have not done any creative writing. One has to be careful again in interpreting these findings to mean that schools with lower paid teachers are not effectively imparting essay writing skills to their students. It could very well be that these low teacher salary schools are more likely to contain students with lower verbal aptitudes and skills and hence the lower performance of students in this type of school. It is even more difficult to argue that these particular school factors play a role in determining the amount of creative writing that takes place outside of the school situation.

Relationships of the principals' subjective ratings of school characteristics with writing achievement are virtually non-existent.

Summary

In general, differences between groups of students defined by factors reflecting advantageous home and family situations were smallest on the Goal I exercises that were designed to measure concern for the well-being of others. This is an encouraging finding. Less encouraging is the finding that there are rather substantial differences in the willingness of these groups of students to allow the public expression of unpopular viewpoints. For example, approximately 66% of the children coming from homes in which the highest educated parent was educated beyond high school were willing to allow a person to make the public statement that "Russia is better than the United States," while only 45% of the children coming from homes in which the highest educated parent had not gone beyond grade school were willing to allow this statement. Children seem to not fully realize the constitutional rights and freedoms available to all citizens. This is an undesirable situation that should and can be rectified through the school system.

On Citizenship exercises involving factual knowledge (e.g., Goal III - Knowing Main Structure and Functions of Government) and those involving some verbal reasoning skills (Goal V - Understanding International Problems and Approaching Civic Decisions Rationally), children from the more advantageous home and family situations performed substantially above children from less advantageous home and family situations.

Region, type of community, and sex differences were not nearly as highly associated with Citizenship and Writing achievement as were the student and family background characteristics.

In general, the relationships between the objective school factors and the performance on the Writing and Citizenship exercises were greater than the relationships generated by the principals' ratings. They were, however, substantially lower than the relationships generated by student and family background characteristics. For those exercises in which school factors are significantly related to performance, caution must be exercised in attributing differences in performance to those particular school characteristics. The reason for this caution in interpretation is that student characteristics are somewhat related to school characteristics and consequently, the observed differences in p-values might be due to differences in the school factors.

Table 5

DIFFERENCES IN MAINE P-VALUES FOR VARIOUS GROUPS OF STUDENTS*

Result Code		Maine Sample Size	State P-Value	Region North	Region East	Region West	Region South	Size of Community 1-1,000	Size of Community 1-10,000	Size of Community >10,000	Sex Male	Sex Female	Father's Occupation Semi	Father's Occupation Skill	Father's Occupation Off.	Father's Occupation Prof
			1749	348	355	607	439	787	703	253	874	875	311	593	386	197
Citizenship																
I-1	Public Park		93	4	-1	-1	1	2	-2	1	-1	1	-2	-1	2	1
I-2	Park Action		76	5	0	-1	-1	-3	2	4	-2	2	-5	1	2	8
I-3	Willing		98	-1	0	0	1	-1	1	1	-1	1	1	0	0	1
I-4	Traffic Light		91	-2	-1	1	0	-2	2	1	1	-1	2	1	1	1
I-5	Public Health		88	0	-2	-1	4	-4	3	5	-1	1	-1	-1	2	6
I-6	Dog License		85	5	-4	-3	6	-4	4	2	0	0	-1	2	0	3
II-1	Police		78	0	2	-2	1	1	-3	4	-1	1	3	3	-3	-2
II-2	Russia		57	-4	2	0	1	-4	2	5	5	-4	0	1	0	10
II-3	Races		36	-5	-1	-1	5	-6	4	6	3	-3	-2	1	0	5
II-4	Believe		60	-6	1	-1	4	-3	0	10	4	-4	-4	-1	3	12
II-5	All Three		29	-5	1	-1	3	-5	3	8	2	-2	-3	0	3	8
II-6	Free Speech		23	-4	1	0	2	-4	2	6	1	-1	-3	1	2	5
II-7	Why Laws		70	-2	-5	0	4	0	-1	2	-5	5	4	0	-4	0
II-8	Argument		66	-6	-1	2	0	-2	0	6	3	-3	-1	-1	5	5
III-1	Why Government		93	-2	-1	1	0	0	0	1	-1	1	0	1	1	1
III-2	Presidential Power		53	4	-4	0	2	-2	2	1	2	-2	-3	0	4	6
III-3	Two Candidates		92	-2	0	1	0	-2	2	0	0	0	3	-2	2	0
III-4	Voting		90	-3	-1	1	1	-1	1	1	-1	1	-5	2	3	6
III-5	Senate		93	0	-1	0	1	-3	1	6	0	0	0	1	0	6
III-6	Senators		39	-7	0	2	0	-5	3	7	5	-5	-6	-2	2	16
III-7	Vice President		91	-1	0	-2	3	-4	3	4	0	0	-1	-1	4	7
III-8	Four Officeholders		82	-2	1	-1	2	-4	2	7	-2	2	0	-3	4	9
IV-1	Influence Government		52	-6	2	-3	5	-4	2	8	1	-1	-9	0	7	17
IV-2	Influence State Government		47	-1	-1	0	1	-2	0	3	-1	1	-3	4	-1	5
IV-3	Letter to Editor		7	-1	-2	0	2	-1	1	0	0	0	-1	0	-1	4
V-1	Future Wars		77	-2	-4	0	4	-3	2	3	-2	2	-9	3	4	2
V-2	World Problems		97	-1	-1	1	0	-1	0	1	-1	1	-1	1	0	2
V-3	Labor Unions		44	4	-3	1	-1	-2	0	5	6	-5	-2	-3	4	16
V-4	Deferments		15	2	-2	-1	2	-2	0	5	-2	2	-2	-2	3	5
V-5	Newspapers		87	0	-2	1	1	-2	2	1	-3	3	-2	1	4	2
VI-1	Future Plans		71	-4	-1	1	0	-1	0	5	-3	3	-3	-1	4	8
Writing																
A-1	Famous Person (Low)		94	0	-1	-1	2	-1	2	-1	-3	3	-2	-1	3	4
A-2	Famous Person (Medium)		28	4	0	-3	4	-3	0	8	-9	9	-10	1	5	14
A-3	Famous Person (High)		5	2	1	-1	1	-2	0	4	-1	1	-4	1	0	4
B-1	Directions		49	-2	-3	-1	4	-4	2	6	-7	7	-10	1	0	14
B-2	Sea Horses		75	-4	1	1	0	-1	0	2	-5	5	-1	1	2	8
B-3	Application Blank		61	-7	-5	1	5	-2	1	2	-8	8	-2	3	0	6
C-1	Wrote Letter		63	5	-5	0	1	1	0	-2	-2	2	-5	-2	3	9
C-2	Creative Writing		80	-4	-2	0	3	2	-2	2	-8	8	-6	-1	5	2
C-3	Written Message		93	-4	-1	1	1	-1	0	2	-2	2	0	0	0	4

The numbers in this table represent p-value differences between the State of Maine as a whole and the various subgroups within Maine as indicated by the column heads. Where the tabular value is negative (minus) the Maine p-value is below the comparative subgroup.

* The estimated p-values, differences in estimated p-values, estimated p-value standard errors, group sample sizes, and t-ratio values are found in Appendix D.

Table 5 (Continued)

Result Code		Maine Sample Size	State P-Value	Mother's Occupation: None	Semi-Skill	Off.	Prof	Job Aspirations: Semi-Skill	Off.	Prof	Parent Discussion with Pupil: Never	Monthly	Weekly	Daily	Disadvantaged: Yes	No	Parent HS Education: None	Some	Grad	Post
			1749	822	398	318	149	595	365	716	228	225	513	780	230	1519	154	242	626	675
Citizenship																				
I-1	Public Park		93	1	-1	0	0	-3	0	2	-2	-2	0	1	0	0	-1	-1	0	1
I-2	Park Action		76	-1	-2	3	8	-7	-1	8	-3	-3	-3	4	-6	1	-6	-2	-2	4
I-3	Willing		98	0	0	1	1	-1	-1	1	-2	-1	0	1	-1	0	-2	-1	0	1
I-4	Traffic Light		91	-1	2	-1	2	0	-1	2	1	0	-2	1	-7	1	-6	-1	1	2
I-5	Public Health		88	-1	1	3	4	-1	1	2	-1	-1	1	0	-4	1	-6	-3	-1	3
I-6	Dog License		85	-1	-3	5	3	-1	-1	1	0	-1	1	0	-2	0	-2	-5	0	3
II-1	Police		78	-1	4	-2	-1	-1	-3	3	-4	3	1	0	-2	0	-2	-2	2	-1
II-2	Russia		57	2	-7	2	8	-3	-13	10	-4	-2	2	1	-11	2	-12	-11	-2	9
II-3	Races		36	-1	-3	2	15	-4	-6	8	-5	7	0	0	-3	0	-5	-12	-2	7
II-4	Believe		60	-1	-5	3	11	-4	-13	9	-2	2	-1	1	-13	2	-13	-12	-1	8
II-5	All Three		29	-1	-4	2	16	-7	-8	10	-6	3	-1	2	-8	1	-8	-11	-4	9
II-6	Free Speech		23	-2	-1	1	14	-5	-7	8	-3	2	0	1	-6	1	-5	-7	-3	6
II-7	Why Laws		70	-1	2	4	-7	-2	2	2	-7	-7	2	3	-1	0	-1	4	-1	1
II-8	Argument		66	1	-5	5	5	-2	0	3	1	-6	0	2	-10	1	-9	-6	-1	5
III-1	Why Government		93	-1	1	1	1	1	2	0	-3	-1	-1	2	-2	0	-2	2	0	1
III-2	Presidential Power		53	1	-1	5	-3	-6	-1	6	-4	-6	-1	3	-7	1	-9	-2	0	4
III-3	Two Candidates		92	-1	0	2	1	-1	-3	3	-4	0	-1	1	-3	0	-3	-3	0	2
III-4	Voting		90	-1	-1	2	8	-6	2	5	-5	-2	-2	4	-11	1	-12	-4	-1	5
III-5	Senate		93	0	-1	2	4	-1	-1	2	-4	-6	0	3	-8	1	-8	-3	0	4
III-6	Senators		39	-2	-2	4	14	-12	-8	14	-7	0	0	2	-12	2	-15	-10	-3	10
III-7	Vice President		91	1	-4	2	6	-4	-3	5	-6	0	0	2	-10	1	-11	-8	0	6
III-8	Four Officeholders		82	0	1	-1	2	-4	-1	3	-2	-7	-1	4	-7	1	-7	0	-2	5
IV-1	Influence Government		52	-2	-6	9	11	-14	-7	16	-17	-3	2	5	-18	2	-20	-18	-3	15
IV-2	Influence State Government		47	-2	0	6	7	-3	2	3	-11	-8	-1	6	-8	1	-6	-4	-2	6
IV-3	Letter to Editor		7	0	-2	2	4	-2	-2	3	-2	-1	-2	2	-3	0	-3	1	-2	2
V-1	Future Wars		77	-1	-1	5	4	-5	-2	7	-4	-3	-2	3	-11	1	-14	-2	-2	7
V-2	World Problems		97	0	0	-1	3	0	1	1	-3	-2	1	1	-4	1	-5	1	0	2
V-3	Labor Unions		44	-1	-3	4	6	-5	-11	10	-8	-4	3	1	-11	1	-19	-10	0	9
V-4	Deferments		15	1	-5	4	3	-7	-1	6	-8	-5	1	3	-8	1	-10	-5	1	4
V-5	Newspapers		87	0	-1	3	4	-7	-2	7	-8	-1	0	3	-7	1	-7	-4	-1	5
VI-1	Future Plans		71	-3	-2	6	11	-7	-2	10	-23	-8	2	8	-9	1	-12	2	-4	7
Writing																				
A-1	Famous Person (Low)		94	0	1	-1	-	-2	-1	4	-8	-3	3	1	-11	1	-13	2	-1	3
A-2	Famous Person (Medium)		28	-1	-6	5	12	-13	-10	18	-12	-13	-2	8	-15	2	-18	-11	-2	10
A-3	Famous Person (High)		5	0	-4	1	5	-4	-2	5	-3	-3	-1	3	-3	0	-4	-4	-1	3
B-1	Directions		49	-3	-2	6	10	-10	-4	11	-11	-3	3	3	-11	1	-12	-10	-4	10
B-2	Sea Horses		75	0	-2	3	9	-6	-4	9	-6	-1	-4	5	-14	2	-14	-12	2	7
B-3	Application Blank		61	0	-4	4	9	-5	-2	5	-12	-9	3	4	-14	2	-16	-4	1	6
C-1	Wrote Letter		63	0	-1	-2	5	-4	-1	5	-12	-2	3	3	-5	1	-3	0	-5	5
C-2	Creative Writing		80	-1	-4	2	8	-3	-1	4	-9	-14	2	6	0	0	-2	-3	-4	5
C-3	Written Message		93	-2	1	2	4	-1	-2	2	-6	-3	1	2	-3	0	-3	-4	0	3

Table 5 (Continued)

Result Code		Maine Sample Size	State P-Value 1749	Reading Material: Less 449	Reading Material: More 1300	Other Language: Yes 348	Other Language: No 1393	Family Size: >6 455	Family Size: 5-6 681	Family Size: 1-4 608	School Program: Comm 405	School Program: Voc/AG 207	School Program: Gen 237	School Program: Coll 893	Extracurr. Activities: None 342	Extracurr. Activities: One 537	Extracurr. Activities: Two 410	Extracurr. Activities: >Three 460
Citizenship																		
I-1	Public Park		93	-2	1	0	0	-2	1	1	-2	-6	0	3	-2	0	1	1
I-2	Park Action		76	-7	2	1	0	0	-4	4	-2	-14	-4	6	-8	-3	5	6
I-3	Willing		98	-2	1	-1	0	-1	1	0	0	-2	-2	2	-3	-1	2	2
I-4	Traffic Light		91	-4	1	-1	0	-3	1	2	0	0	-5	1	-3	0	0	3
I-5	Public Health		88	-2	1	-5	2	-2	1	1	0	-6	-3	2	-3	-2	2	4
I-6	Dog License		85	-5	2	0	0	-1	-2	3	-2	1	-6	2	-4	-3	0	7
II-1	Police		78	-1	0	0	0	-2	1	1	2	-6	-3	1	-3	2	0	0
II-2	Russia		57	-8	2	-7	2	-3	-1	4	-15	-7	-8	11	-11	0	3	7
II-3	Races		36	-5	2	-4	1	1	-2	2	-12	-4	-3	7	-5	0	0	5
II-4	Believe		60	-10	3	-7	2	-3	0	2	-16	-5	-10	11	-8	-1	2	7
II-5	All Three		29	-6	2	-6	2	-1	-2	2	-14	-6	-8	10	-6	-1	1	5
II-6	Free Speech		23	-5	2	-4	1	0	-1	1	-11	-5	-4	7	-4	-1	1	4
II-7	Why Laws		70	-4	1	-1	0	0	0	1	5	-8	-6	1	-4	-1	0	5
II-8	Argument		66	-6	2	-6	2	1	-2	2	-7	-7	-5	6	-10	-1	4	6
III-1	Why Government		93	-1	0	-3	1	-2	1	0	2	-7	0	1	-4	0	2	1
III-2	Presidential Power		53	-2	1	-5	1	-1	-1	2	-8	-6	-5	7	-8	1	4	3
III-3	Two Candidates		92	-4	1	-3	1	-3	0	2	-3	0	-7	3	-3	2	0	0
III-4	Voting		90	-9	3	-7	2	-2	0	1	-3	-5	-12	6	-8	-1	4	4
III-5	Senate		93	-5	2	-2	1	-1	1	0	-3	-6	-5	4	-6	1	2	3
III-6	Senators		39	-12	4	-9	2	-2	-2	3	-16	-12	-18	16	-13	-1	4	9
III-7	Vice President		91	-8	3	-5	1	-4	0	2	-5	-7	-8	6	-7	-3	5	6
III-8	Four Officeholders		82	-5	1	-2	1	0	3	-3	-4	-7	-3	5	-3	-4	2	7
IV-1	Influence Government		52	-15	5	-14	4	-3	0	2	-16	-14	-25	18	-11	-4	3	12
IV-2	Influence State Government		47	-8	2	-5	1	-4	0	3	-2	-10	-17	8	-8	-3	4	7
IV-3	Letter to Editor		7	-3	1	0	0	0	0	0	-3	-2	-1	2	-3	-2	-1	7
V-1	Future Wars		77	-5	1	-3	1	-1	-2	3	-3	-12	-10	7	-9	0	1	6
V-2	World Problems		97	-3	1	-1	0	1	-1	1	0	-4	0	2	-3	1	1	1
V-3	Labor Unions		44	-12	4	-10	3	-6	1	4	-16	-9	-12	13	-9	-2	4	7
V-4	Deferments		15	-6	2	-6	2	-2	-3	5	-5	-10	-13	8	-5	-3	2	7
V-5	Newspapers		87	-6	2	-6	2	0	-1	1	-1	-13	-10	7	-5	-2	3	4
VI-1	Future Plans		71	-13	4	2	0	-2	0	2	-5	-6	-24	10	-14	-2	3	12
Writing																		
A-1	Famous Person (Low)		94	-5	1	-2	1	1	-1	1	0	-5	-8	4	-7	-1	4	5
A-2	Famous Person (Medium)		28	-11	4	-14	4	-4	0	3	-11	-22	-17	15	-12	-6	5	15
A-3	Famous Person (High)		5	-3	1	-4	1	0	-1	1	-4	-5	-5	5	-4	-2	1	5
B-1	Directions		49	-11	4	-6	2	-5	2	2	-8	-20	-18	14	-10	-4	7	9
B-2	Sea Horses		75	-11	3	-8	2	-4	0	3	-8	-14	-11	10	-8	-4	3	9
B-3	Application Blank		61	-8	2	-6	2	-3	-1	4	-4	-13	-15	9	-8	-2	4	6
C-1	Wrote Letter		63	-8	2	-2	0	-3	0	2	2	-11	-10	5	-7	-4	-2	13
C-2	Creative Writing		80	-4	1	-2	1	1	-1	0	-1	-10	-2	4	-7	-6	3	12
C-3	Written Message		93	-6	2	-4	1	-3	1	2	-1	-7	-3	3	-6	0	1	5

Table 5 (Continued)

Result Code		Maine Sample Size	State P-Value	Does Student Like School? Not-at-All	So-So	Much	Lots	Parental School Support None	Slight	Occas	Vital	Pers Adequacy Less	More	Fac Adequacy Less	More
			1749	303	380	801	260	109	502	928	206	1110	639	883	866
Citizenship															
I-1	Public Park		93	-5	1	1	0	2	0	0	-1	0	-1	1	-1
I-2	Park Action		76	-10	-2	3	5	-1	-2	0	5	-1	1	0	0
I-3	Willing		98	-5	0	2	1	-4	-1	1	-2	0	1	0	0
I-4	Traffic Light		91	0	0	1	-2	6	-1	1	-5	0	0	-1	1
I-5	Public Health		88	-4	-3	3	0	3	1	-2	4	0	0	0	0
I-6	Dog License		85	-6	4	0	0	3	-2	1	0	-1	2	-1	1
II-1	Police		78	-2	-2	2	2	-6	-2	2	-4	-2	2	-1	1
II-2	Russia		57	-6	4	0	0	0	-4	2	-1	-2	3	1	-1
II-3	Races		36	2	2	-1	-4	-2	-2	1	1	0	0	1	-1
II-4	Believe		60	-4	5	0	-3	-3	2	0	-5	-2	3	2	-2
II-5	All Three		29	0	3	0	-4	-2	-2	1	0	-1	1	0	0
II-6	Free Speech		23	1	3	-1	-4	-3	-2	1	-1	0	0	1	-1
II-7	Why Laws		70	-10	-2	3	5	6	4	-1	-6	1	-2	-1	1
II-8	Argument		66	-9	1	2	2	-5	0	0	2	-2	2	-1	1
III-1	Why Government		93	-5	1	1	4	-3	0	0	1	-1	1	0	0
III-2	Presidential Power		53	-9	-3	4	3	-1	4	-3	4	-2	3	0	0
III-3	Two Candidates		92	-3	1	1	-1	1	0	0	0	0	0	0	0
III-4	Voting		90	-6	-1	2	4	2	0	0	1	0	0	1	-1
III-5	Senate		93	-5	0	2	0	6	-2	0	0	-1	2	0	0
III-6	Senators		39	-10	3	5	-8	21	-7	-1	9	-2	2	-4	4
III-7	Vice President		91	-8	0	3	0	-1	-4	1	2	-1	2	1	-1
III-8	Four Officeholders		82	-7	-3	3	3	-6	4	-1	-2	0	0	0	0
IV-1	Influence Government		52	-15	1	5	2	-9	-1	1	4	-1	1	0	0
IV-2	Influence State Government		47	-16	-5	6	8	4	2	-1	1	-3	4	-1	1
IV-3	Letter to Editor		7	-2	0	0	3	-4	0	0	1	0	0	0	0
V-1	Future Wars		77	-14	-3	4	7	5	2	-1	-1	-2	3	0	0
V-2	World Problems		97	-1	-1	1	0	-1	1	1	-5	0	0	0	0
V-3	Labor Unions		44	-7	2	3	-3	7	-4	1	-1	-2	3	1	-1
V-4	Deferments		15	-7	-3	4	0	-1	-1	0	3	-1	1	0	0
V-5	Newspapers		87	-3	-1	2	-2	4	-1	0	0	0	1	0	0
VI-1	Future Plans		71	-18	-2	5	8	6	0	1	-10	-1	1	-1	1
Writing															
A-1	Famous Person (Low)		94	-8	-2	3	5	-2	2	0	-1	1	-1	1	-1
A-2	Famous Person (Medium)		28	-13	-5	5	9	-2	2	0	-5	2	-2	1	-1
A-3	Famous Person (High)		5	-4	-1	1	2	3	0	0	-1	-1	1	0	0
B-1	Directions		49	-8	0	4	-1	3	-2	0	3	0	0	2	-2
B-2	Sea Horses		75	-8	-2	4	1	2	-1	1	-3	0	-1	-1	1
B-3	Application Blank		61	-12	-1	4	3	-16	4	0	-3	-2	3	-1	1
C-1	Wrote Letter		63	-5	-3	2	7	-2	3	-1	-1	0	-1	-1	1
C-2	Creative Writing		80	-8	-1	1	9	-3	3	-1	0	0	-1	-1	1
C-3	Written Message		93	-2	-1	1	0	-7	0	1	0	-1	1	-2	2

Table 5 (Continued)

Result Code		Maine Sample Size	State P-Value	Size of School 0-300	3-500	5-800	>800	Pupil/Teacher Ratio <18	18-20	20-22	>22	Average Teacher Salary Per School <$8K	$8K-8.5K	$8.5K-9K	$9K-9.5K	>$9.5K
			1749	367	339	427	616	482	361	511	395	224	345	528	367	285
Citizenship																
I-1	Public Park		93	0	1	0	-1	2	-1	-1	0	1	-1	2	0	-3
I-2	Park Action		76	-2	-2	2	0	2	-1	-2	1	0	-3	-1	3	0
I-3	Willing		98	-2	0	0	0	0	1	-1	1	-1	0	0	0	-1
I-4	Traffic Light		91	-3	0	0	1	0	-1	3	-3	-3	-1	-1	3	-1
I-5	Public Health		88	0	-3	-3	4	1	-4	3	-1	-3	1	-2	1	3
I-6	Dog License		85	-6	-8	2	3	4	-5	3	-2	-5	-5	1	1	5
II-1	Police		78	5	-3	-2	1	0	4	0	-4	5	-2	-1	0	2
II-2	Russia		57	-3	-3	1	1	-1	3	-5	4	1	-2	-1	-1	5
II-3	Races		36	-4	-1	1	1	-1	2	-1	0	-7	2	-2	-2	9
II-4	Believe		60	-3	-4	3	0	3	2	-6	2	-10	3	1	-6	6
II-5	All Three		29	-6	0	1	1	0	2	-3	2	-6	1	-2	-1	7
II-6	Free Speech		23	-6	0	1	1	-3	3	-3	3	-4	2	0	-4	5
II-7	Why Laws		70	1	1	-3	2	4	-5	2	-1	0	1	-1	-1	2
II-8	Argument		66	1	7	-2	-1	3	1	-1	-2	3	3	-1	-1	-1
III-1	Why Government		93	-1	0	0	1	-1	0	0	0	1	0	0	-1	0
III-2	Presidential Power		53	4	0	-5	3	3	-1	0	-1	2	2	-1	-1	1
III-3	Two Candidates		92	-2	0	-1	1	0	0	1	-1	-2	0	-1	2	0
III-4	Voting		90	3	2	-2	-1	3	-3	1	-1	3	3	0	-2	0
III-5	Senate		93	0	-2	-1	2	-2	0	0	2	-2	1	1	-3	2
III-6	Senators		39	5	4	-3	-1	-2	4	1	-4	5	3	-3	-1	1
III-7	Vice President		91	-3	1	-1	1	-1	2	-1	-1	-1	-1	-2	1	4
III-8	Four Officeholders		82	-2	1	-1	1	0	-4	1	3	-1	-2	2	-2	1
IV-1	Influence Government		52	-5	-3	2	1	3	0	-3	1	-7	0	-3	1	7
IV-2	Influence State Government		47	-1	0	-2	2	-1	0	4	-4	4	1	4	-5	-2
IV-3	Letter to Editor		7	-1	-3	1	0	0	0	-1	2	-1	-1	0	0	1
V-1	Future Wars		77	2	-1	0	-1	2	1	-1	-2	2	-2	0	-1	3
V-2	World Problems		97	-2	-1	1	0	0	-2	0	1	0	0	1	-1	0
V-3	Labor Unions		44	-4	-5	1	2	-1	2	-1	1	-4	-2	1	3	-2
V-4	Deferments		15	1	-2	0	1	4	-3	0	0	-1	2	-1	2	-2
V-5	Newspapers		87	1	0	-2	1	2	0	-2	1	-1	2	1	-2	0
VI-1	Future Plans		71	-9	0	0	3	0	-5	5	-2	-4	-7	6	0	-4
Writing																
A-1	Famous Person (Low)		94	-1	0	-2	1	1	-4	1	1	-1	-2	0	0	1
A-2	Famous Person (Medium)		28	-2	2	-4	3	-2	-4	3	3	-8	0	2	-4	4
A-3	Famous Person (High)		5	-2	0	0	0	-1	1	1	-1	-4	-1	1	0	1
B-1	Directions		49	3	-3	-1	1	3	-5	2	-1	-3	-3	2	0	2
B-2	Sea Horses		75	-6	5	3	-3	-3	0	3	-1	-3	0	-2	2	3
B-3	Application Blank		61	-4	-1	0	1	0	0	1	-1	-4	1	0	1	-1
C-1	Wrote Letter		63	-1	3	0	-1	1	-3	1	0	5	-3	1	0	-2
C-2	Creative Writing		80	0	3	0	-1	0	2	-1	-1	-5	0	-2	2	2
C-3	Written Message		93	-3	-1	0	2	-2	0	0	1	-6	-2	0	1	3

Table 5 (Continued)

Result Code		Maine Sample Size	State P-Value	Per Pupil Expenditure <$700	$700-800	$800-900	>$900	Size of School by Per Pupil Expenditure <$800 & <500 Pup	>$800 & <500 Pup	<$800 & >500 Pup	>$800 & >500 Pup
			1749	399	484	428	438	287	419	596	447
Citizenship											
I-1	Public Park		93	2	-2	2	-1	1	0	0	0
I-2	Park Action		76	-1	2	-2	1	2	-4	0	2
I-3	Willing		98	-1	0	0	1	-1	-1	0	1
I-4	Traffic Light		91	-2	0	3	-1	-3	-1	0	2
I-5	Public Health		88	-1	-1	1	0	-1	-3	-1	3
I-6	Dog License		85	-1	1	3	-2	-6	-7	1	5
II-1	Police		78	-3	-2	3	3	-3	2	-2	3
II-2	Russia		57	-3	-1	-2	6	-7	-1	-1	4
II-3	Races		36	-5	-1	0	6	-4	-2	-3	6
II-4	Believe		60	-2	2	-3	3	-4	-3	1	2
II-5	All Three		29	-5	0	-1	7	-4	-1	-2	5
II-6	Free Speech		23	-3	1	-2	4	-3	-2	0	2
II-7	Why Laws		70	1	-3	1	2	1	1	-2	2
II-8	Argument		66	-3	-1	-2	6	1	7	-3	0
III-1	Why Government		93	0	-1	-2	2	-4	1	1	0
III-2	Presidential Power		53	-3	1	-3	5	3	1	-2	1
III-3	Two Candidates		92	-2	1	3	-2	0	-1	0	1
III-4	Voting		90	0	0	0	0	2	3	0	-2
III-5	Senate		93	0	1	0	-1	0	-2	1	0
III-6	Senators		39	-5	-3	3	5	1	7	-5	3
III-7	Vice President		91	-3	-2	0	5	-6	2	-1	3
III-8	Four Officeholders		82	-1	-2	-1	3	-1	0	-1	2
IV-1	Influence Government		52	-4	0	0	4	-4	-4	-2	6
IV-2	Influence State Government		47	1	1	-1	-1	1	-1	1	-1
IV-3	Letter to Editor		7	0	-1	0	1	-3	-2	0	2
V-1	Future Wars		77	-2	-1	0	3	-4	3	-1	1
V-2	World Problems		97	1	0	-1	0	-2	-1	1	0
V-3	Labor Unions		44	-1	-2	1	2	-13	0	2	2
V-4	Deferments		15	0	-1	1	0	-1	0	-1	1
V-5	Newspapers		87	-1	-1	-1	3	-2	2	-1	0
VI-1	Future Plans		71	0	0	3	-2	-8	-2	2	1
Writing											
A-1	Famous Person (Low)		94	0	-1	0	1	2	-1	-1	1
A-2	Famous Person (Medium)		28	1	-1	0	0	-1	1	0	0
A-3	Famous Person (High)		5	-1	0	1	0	-2	0	0	1
B-1	Directions		49	-1	-3	2	2	-5	2	-1	2
B-2	Sea Horses		75	-3	-2	2	4	0	1	-3	4
B-3	Application Blank		61	-3	1	2	1	-3	-2	-1	3
C-1	Wrote Letter		63	-2	-1	3	-7	6	0	-2	
C-2	Creative Writing		80	0	1	3	-2	3	-2	1	
C-3	Written Message		93	-1	0	0	1	-4	-1	0	2

Table 6

CODED DIFFERENCES IN MAINE P-VALUES FOR VARIOUS GROUPS OF STUDENTS*

Result Code		Region				Size of Community			Sex		Father's Occupation			
		North	East	West	South	1-1,000	1-10,000	>10,000	Male	Female	Semi Skill		Off.	Prof
Citizenship														
I-1	Public Park	+★	00	--	0+	++	--	00	--	++	00	00	++	00
I-2	Park Action	++	00	00	00	--	00	0+	--	++	--	00	--	+★
I-3	Willing	00	00	00	0+	--	+★	0+	-0	0+	00	00	00	00
I-4	Traffic Light	00	00	00	00	--	++	00	00	00	00	00	00	00
I-5	Public Health	00	00	00	+★	-★	+★	+★	-0	0+	00	00	00	+★
I-6	Dog License	++	--	--	+★	-★	+★	00	00	00	00	0+	00	0+
II-1	Police	00	00	00	00	00	--	0+	00	00	0+	++	-0	00
II-2	Russia	-0	00	00	00	--	00	0+	+★	-★	00	00	00	+★
II-3	Races	-0	00	00	++	-★	+★	++	++	--	00	00	00	00
II-4	Believe	--	00	00	++	--	00	+★	+★	-★	-0	00	0+	+★
II-5	All Three	--	00	00	0+	-★	++	++	++	--	00	00	00	++
II-6	Free Speech	-0	00	00	00	-★	0+	++	00	00	-0	00	00	0+
II-7	Why Laws	00	-0	00	++	00	00	00	-★	+★	++	00	-0	00
II-8	Argument	-0	00	00	00	--	00	++	++	--	00	00	++	0+
III-1	Why Government	00	00	0+	00	00	00	00	-0	0+	00	00	00	00
III-2	Presidential Power	00	-0	00	00	-0	0+	00	0+	-0	00	00	++	++
III-3	Two Candidates	00	00	00	00	--	++	00	00	00	++	--	0+	00
III-4	Voting	-0	00	00	00	-0	0+	00	-0	0+	--	0+	++	+★
III-5	Senate	00	-0	00	00	-★	00	+★	00	00	00	00	00	+★
III-6	Senators	--	00	00	00	-★	0+	++	+★	-★	--	00	00	+★
III-7	Vice President	00	00	-0	+★	-★	+★	++	00	00	00	00	+★	+★
III-8	Four Officeholders	00	00	00	0+	-★	0+	+★	--	++	00	-0	++	+★
IV-1	Influence Government	--	00	--	++	-★	00	++	00	00	-★	00	+★	+★
IV-2	Influence State Government	00	00	00	00	00	00	00	00	00	00	++	00	0+
IV-3	Letter to Editor	00	--	00	++	--	0+	00	00	00	00	00	00	++
V-1	Future Wars	00	--	00	++	--	0+	00	--	++	-★	++	++	00
V-2	World Problems	00	00	0+	00	00	00	00	00	00	00	++	00	++
V-3	Labor Unions	00	00	00	00	-0	00	0+	+★	-★	00	--	0+	+★
V-4	Deferments	00	00	00	00	-0	00	++	--	++	00	-0	++	++
V-5	Newspapers	00	-0	00	00	-0	++	00	-★	+★	00	0+	+★	00
VI-1	Future Plans	-0	00	00	00	00	00	0+	-★	+★	00	00	++	+★
Writing														
A-1	Famous Person (Low)	00	-0	00	++	--	++	00	-★	+★	-0	00	+★	+★
A-2	Famous Person (Medium)	0+	00	--	0+	--	00	++	-★	+★	-★	00	++	+★
A-3	Famous Person (High)	00	00	--	00	--	00	++	--	++	-★	0+	00	++
B-1	Directions	00	00	00	++	-★	0+	++	-★	+★	-★	00	00	+★
B-2	Sea Horses	-0	00	00	00	00	00	00	-★	+★	00	00	00	+★
B-3	Application Blank	--	--	00	++	00	00	00	-★	+★	00	++	00	++
C-1	Wrote Letter	0+	--	00	00	00	00	00	-0	0+	--	00	0+	+★
C-2	Creative Writing	-0	-0	00	++	++	--	00	-★	+★	--	00	+★	00
C-3	Written Message	--	00	0+	00	00	00	00	-★	+★	00	00	00	+★

The codes in this table represent t-ratios between the State of Maine as a whole and the various subgroups within Maine as indicated by the column heads. Where the tabular value is negative (minus), the indicated subgroup is below the State as a whole.

* The estimated p-values, differences in estimated p-values, estimated p-value standard errors, group sample sizes, and t-ratio values are found in Appendix D.

Table 6 (Continued)

Result Code		Mother's Occupation				Job Aspirations			Parent Discussion with Pupil				Disadvantaged		Parent HS Education			
		None	Semi-Skill	Off.	Prof	Semi-Skill	Off.	Prof	Never	Monthly	Weekly	Daily	Yes	No	None	Some	Grad	Post
Citizenship																		
I-1	Public Park	00	00	00	00	--	00	+★	00	00	00	++	00	00	00	00	00	0+
I-2	Park Action	00	00	00	+★	-★	00	+★	00	00	--	+★	--	++	-0	00	-0	+★
I-3	Willing	00	00	++	0+	--	00	+★	-0	00	00	++	00	00	00	-0	00	+★
I-4	Traffic Light	00	0+	00	00	00	00	++	00	00	-0	0+	-★	++	--	00	00	++
I-5	Public Health	-0	00	++	0+	-0	00	0+	00	00	00	00	-0	0+	-0	00	00	+★
I-6	Dog License	00	--	+★	00	00	00	00	00	00	00	00	00	00	00	--	00	++
II-1	Police	00	++	00	00	00	00	++	00	00	00	00	00	00	00	00	0+	00
II-2	Russia	00	-★	00	++	-0	-★	+★	-0	00	00	00	-★	+★	--	-★	-0	+★
II-3	Races	00	-0	00	+★	--	-★	+★	--	++	00	00	00	00	00	-★	00	+★
II-4	Believe	00	--	00	++	--	-★	+★	00	00	00	00	0★	+★	-★	-★	00	+★
II-5	All Three	00	--	00	+★	-★	-★	+★	--	00	00	00	-★	+★	--	-★	--	+★
II-6	Free Speech	-0	00	00	+★	-★	-★	+★	00	00	00	00	--	++	-0	-★	--	+★
II-7	Why Laws	00	00	++	--	00	00	0+	-★	--	00	++	00	00	00	00	00	00
II-8	Argument	00	--	++	00	00	00	0+	00	--	00	0+	-★	+★	--	--	00	+★
III-1	Why Government	00	00	00	00	00	0+	00	--	00	00	++	00	00	00	0+	00	00
III-2	Presidential Power	00	00	++	00	-★	00	+★	-0	--	00	++	--	++	--	00	00	++
III-3	Two Candidates	-0	00	++	00	00	--	+★	--	00	00	0+	00	00	00	00	00	++
III-4	Voting	00	00	0+	+★	-★	00	+★	--	00	-0	+★	-★	+★	-★	--	00	+★
III-5	Senate	00	00	++	+★	00	00	+★	--	-★	00	+★	-★	+★	-★	-0	00	+★
III-6	Senators	-0	00	+0	+★	-★	-★	+★	--	00	00	0+	-★	+★	-★	-★	-0	+★
III-7	Vice President	00	-★	++	+★	-★	--	+★	-★	00	00	+★	-★	+★	-★	-★	00	+★
III-8	Four Officeholders	00	00	00	00	--	00	+★	00	--	00	+★	--	++	--	00	--	+★
IV-1	Influence Government	00	--	+★	++	-★	-★	+*	-★	00	00	+★	-★	+★	-★	-★	-0	+★
IV-2	Influence State Government	-0	00	++	++	--	00	++	-★	-★	00	+★	--	++	00	00	-0	+★
IV-3	Letter to Editor	00	--	0+	0+	--	-0	+★	00	00	-0	++	--	++	--	00	-★	+★
V-1	Future Wars	00	00	++	00	-★	00	+★	00	00	00	++	-★	+★	-★	00	-0	+★
V-2	World Problems	00	00	00	+★	00	00	00	--	00	++	++	-★	+★	--	00	00	+★
V-3	Labor Unions	00	-0	+0	+0	--	-★	+★	-★	00	0+	00	-★	+★	-★	-★	00	+★
V-4	Deferments	00	-★	++	00	-★	00	+★	-★	--	00	+★	-★	+★	-★	--	00	+★
V-5	Newspapers	00	00	++	0+	-★	00	+★	-★	00	00	+★	-★	+★	--	-0	00	+★
VI-1	Future Plans	--	00	+★	+★	-★	00	+★	-★	--	00	+★	--	++	--	00	-★	+★
Writing																		
A-1	Famous Person (Low)	00	00	00	+★	--	00	+★	-★	-0	+★	0+	-★	+★	-★	0+	00	+★
A-2	Famous Person (Medium)	00	-★	++	+★	-★	-★	+★	-★	-★	00	+★	-★	+★	-★	-★	00	+★
A-3	Famous Person (High)	00	-★	00	++	-★	--	+★	-★	-★	-0	+★	--	++	--	-★	--	+★
B-1	Directions	--	00	++	++	-★	--	+★	-★	00	0+	++	-★	+★	-★	-★	-0	+★
B-2	Sea Horses	00	00	0+	+★	-★	--	+★	--	00	--	+★	-★	+★	-★	-★	0+	+★
B-3	Application Blank	00	-0	0+	++	-★	00	+★	-★	-★	0+	+★	-★	+★	-★	-0	00	+★
C-1	Wrote Letter	00	00	00	00	--	00	+★	-★	00	0+	++	-0	0+	00	00	-★	+★
C-2	Creative Writing	00	--	00	+★	--	00	+★	-★	-★	0+	+★	00	00	00	-0	--	+★
C-3	Written Message	--	00	++	++	00	00	+★	-★	-0	00	+★	-0	0+	00	--	00	+★

Table 6 (Continued)

Result Code		Reading Material		Other Language		Family Size			School Program				Extracurr. Activities			
		Less	More	Yes	No	>6	5-6	1-4	Comm	Voc/Ag	Gen	Coll	None	One	Two	>Three
Citizenship																
I-1	Public Park	--	++	00	00	00	00	00	-0	-*	00	+*	-0	00	00	00
I-2	Park Action	-*	+*	00	00	00	--	++	00	-*	-0	+*	-*	-0	+*	+*
I-3	Willing	--	++	00	++	00	++	00	00	-0	--	+*	-*	-0	++	+*
I-4	Traffic Light	-*	+*	00	00	--	00	0+	00	00	--	++	--	00	00	+*
I-5	Public Health	00	00	-*	+*	00	00	00	00	--	00	+*	--	-0	00	+*
I-6	Dog License	-*	+*	00	00	00	-0	++	00	00	--	+*	--	--	00	++
II-1	Police	00	00	00	00	00	00	00	00	--	00	00	-0	00	00	00
II-2	Russia	-*	+*	-*	+*	-0	00	++	-*	--	--	+*	-*	00	00	+*
II-3	Races	-*	+*	-0	++	00	-0	00	-*	-0	00	+*	--	00	00	++
II-4	Believe	-*	+*	-*	+*	00	00	0+	-*	-0	-*	+*	-*	00	00	+*
II-5	All Three	-*	+*	-*	+*	00	00	0+	-*	--	--	+*	-*	00	00	++
II-6	Free Speech	-*	+*	--	++	00	00	00	-*	--	-0	+*	--	00	00	++
II-7	Why Laws	-0	0+	00	00	00	00	00	-*	--	-0	00	-0	00	00	+*
II-8	Argument	-*	+*	--	++	00	00	00	-*	--	-0	+*	-*	00	0+	+*
III-1	Why Government	-0	0+	-0	++	00	0+	00	++	-*	00	0+	--	00	++	00
III-2	Presidential Power	00	00	-0	0+	00	00	00	-*	--	--	+*	-*	00	0+	00
III-3	Two Candidates	-*	+*	--	0+	--	00	0+	--	00	-*	+*	-0	0+	00	00
III-4	Voting	-*	+*	-*	+*	00	00	00	--	--	-*	+*	-*	00	+*	+*
III-5	Senate	-*	+*	-0	0+	00	00	00	--	-*	--	+*	-*	00	++	+*
III-6	Senators	-*	+*	-*	+*	00	00	++	-*	-*	-*	+*	-*	00	++	+*
III-7	Vice President	-*	+*	-*	+*	--	00	++	-*	-*	-*	+*	-*	--	+*	+*
III-8	Four Officeholders	--	++	00	00	00	++	--	--	--	00	+*	-0	--	00	+*
IV-1	Influence Government	-*	+*	-*	+*	-0	00	00	-*	-*	-*	+*	-*	--	0+	+*
IV-2	Influence State Government	-*	+*	--	++	--	00	0+	00	-*	-*	+*	-*	-0	++	+*
IV-3	Letter to Editor	--	++	00	00	00	00	00	-*	-0	00	+*	-*	--	00	+*
V-1	Future Wars	-*	+*	00	00	00	-0	++	-0	-*	-*	+*	-*	00	00	+*
V-2	World Problems	-*	+*	00	0+	0+	--	0+	00	-*	00	+*	-*	0+	0+	00
V-3	Labor Unions	-*	+*	-*	+*	--	00	++	-*	-*	-*	+*	-*	00	++	+*
V-4	Deferments	-*	+*	-*	+*	-0	-*	++	-*	-*	-*	+*	-*	-*	0+	+*
V-5	Newspapers	-*	+*	-*	+*	00	00	00	00	-*	-*	+*	--	-0	++	+*
VI-1	Future Plans	-*	+*	00	00	00	00	0+	--	--	-*	+*	-*	00	++	+*
Writing																
A-1	Famous Person (Low)	-*	+*	-0	0+	00	00	00	00	--	-*	+*	-*	-0	+*	+*
A-2	Famous Person (Medium)	-*	+*	-*	+*	--	00	0+	-*	-*	-*	+*	-*	-*	++	+*
A-3	Famous Person (High)	-*	+*	-*	+*	00	-0	0+	-*	-*	-*	+*	-*	--	00	+*
B-1	Directions	-*	+*	--	++	--	00	00	-*	-*	-*	+*	-*	--	+*	+*
B-2	Sea Horses	-*	+*	-*	++	--	00	++	-*	-*	-*	+*	-*	--	0+	+*
B-3	Application Blank	-*	+*	--	+*	-0	00	++	-0	-*	-*	+*	-*	00	++	+*
C-1	Wrote Letter	-*	+*	00	00	-0	00	0+	00	-*	-*	+*	-*	--	00	+*
C-2	Creative Writing	--	++	00	00	00	00	00	00	-*	00	+*	-*	-*	++	+*
C-3	Written Message	-*	+*	-*	+*	-*	00	+*	00	-*	-0	+*	-*	00	00	+*

Table 6 (Continued)

Result Code		Does Student Like School? Not-at-All	So-So	Much	Lots	Parental School Support None	Slight	Occas	Vital	Pers Adequacy Less	More	Fac Adequacy Less	More
Citizenship													
I-1	Public Park	-★	00	0+	00	00	00	00	00	00	00	++	--
I-2	Park Action	-★	00	+★	++	00	00	00	0+	00	00	00	00
I-3	Willing	-★	00	+★	+★	00	00	+★	00	00	00	00	00
I-4	Traffic Light	00	00	00	00	+★	00	0+	--	00	00	--	++
I-5	Public Health	--	--	+★	00	00	00	--	++	00	00	00	00
I-6	Dog License	-★	+★	00	00	00	00	00	00	-0	0+	00	00
II-1	Police	00	00	0+	00	00	00	++	00	--	++	00	00
II-2	Russia	--	0+	00	00	00	-0	0+	00	--	++	00	00
II-3	Races	00	00	00	00	00	00	00	00	00	00	00	00
II-4	Believe	-0	++	00	00	00	00	00	-0	-0	0+	0+	-0
II-5	All Three	00	00	00	-0	00	00	00	00	00	00	00	00
II-6	Free Speech	00	00	00	-0	00	00	00	00	00	00	00	00
II-7	Why Laws	-★	00	+★	++	00	++	00	--	00	00	00	00
II-8	Argument	-★	00	++	00	00	00	00	00	-0	0+	00	00
III-1	Why Government	--	00	00	+★	00	00	00	00	-0	++	00	00
III-2	Presidential Power	-★	00	+★	00	00	++	--	00	-0	0+	00	00
III-3	Two Candidates	--	00	0+	00	00	00	00	00	00	00	00	00
III-4	Voting	--	00	++	++	00	00	00	00	00	00	00	00
III-5	Senate	-★	00	+★	00	+★	--	00	00	--	++	00	00
III-6	Senators	-★	00	+★	-★	+★	--	00	++	00	00	-★	+★
III-7	Vice President	-★	00	+★	00	00	--	++	00	-0	0+	00	00
III-8	Four Officeholders	-★	-0	+★	0+	00	+★	00	00	00	00	00	00
IV-1	Influence Government	-★	00	+★	00	--	00	00	00	00	00	00	00
IV-2	Influence State Government	-★	--	+★	+★	00	00	00	00	-★	+★	00	00
IV-3	Letter to Editor	--	00	00	0+	--	00	00	00	00	00	00	00
V-1	Future Wars	-★	00	+★	+★	00	00	00	00	--	++	00	00
V-2	World Problems	00	-0	+★	00	00	00	0+	--	00	00	00	00
V-3	Labor Unions	--	00	++	00	00	-0	00	00	--	++	00	00
V-4	Deferments	-★	--	+★	00	00	00	00	00	00	00	00	00
V-5	Newspapers	-0	00	+★	00	00	00	00	00	00	00	00	00
VI-1	Future Plans	-★	00	+★	+★	00	00	00	--	00	00	00	00
Writing													
A-1	Famous Person (Low)	-★	-0	+★	+★	00	0+	00	00	00	00	0+	-0
A-2	Famous Person (Medium)	-★	--	+★	+★	00	00	00	00	00	00	00	00
A-3	Famous Person (High)	-★	00	++	0+	00	00	00	00	00	00	00	00
B-1	Directions	-★	00	+★	00	00	00	00	00	00	00	00	00
B-2	Sea Horses	-★	00	+★	00	00	00	00	00	00	00	00	00
B-3	Application Blank	-★	00	+★	00	--	0+	00	00	-0	0+	00	00
C-1	Wrote Letter	--	-0	0+	+★	00	0+	00	00	00	00	00	00
C-2	Creative Writing	-★	00	00	+★	00	0+	00	00	00	00	-0	00
C-3	Written Message	-0	00	++	00	--	00	00	00	00	00	-★	+★

Table 6 (Continued)

Result Code		Size of School				Pupil/Teacher Ratio				Average Teacher Salary Per School				
		0-300	3-500	5-800	>800	<18	18-20	20-22	>22	<$8K	$8K-8.5K	$8.5K-9K	$9K-9.5K	>$9.5K
Citizenship														
I-1	Public Park	00	00	00	00	+★	00	00	00	00	00	++	00	--
I-2	Park Action	00	00	00	00	00	00	00	00	00	-0	00	++	00
I-3	Willing	00	00	00	00	00	00	00	00	00	00	00	00	00
I-4	Traffic Light	--	00	00	00	00	00	+★	--	00	00	00	+★	00
I-5	Public Health	00	-0	-0	+★	00	--	++	00	00	00	-0	00	0+
I-6	Dog License	--	--	0+	++	++	-0	0+	00	--	--	00	00	++
II-1	Police	++	00	00	00	00	0+	00	-0	++	00	00	00	00
II-2	Russia	00	-0	00	00	00	0+	--	0+	00	00	00	00	0+
II-3	Races	--	00	00	00	00	0+	00	00	-0	00	-0	00	+★
II-4	Believe	00	00	0+	00	0+	00	-★	00	--	00	00	--	++
II-5	All Three	-★	00	00	00	00	00	-0	00	-0	00	-0	00	++
II-6	Free Speech	-★	00	00	00	-0	++	-0	00	00	00	00	--	++
II-7	Why Laws	00	00	-0	00	++	--	00	00	00	00	00	00	00
II-8	Argument	00	+★	00	00	0+	00	00	00	00	00	00	00	00
III-1	Why Government	00	00	00	00	00	00	00	00	00	00	00	00	00
III-2	Presidential Power	0+	00	--	0+	00	00	00	00	00	00	00	00	00
III-3	Two Candidates	00	00	00	00	00	00	00	00	00	00	00	00	00
III-4	Voting	++	00	00	00	++	--	00	00	0+	0+	00	-0	00
III-5	Senate	00	00	-0	++	--	00	00	++	00	00	0+	-★	00
III-6	Senators	++	0+	00	00	00	0+	00	00	00	00	00	00	00
III-7	Vice President	00	00	00	00	00	0+	00	00	00	00	00	00	++
III-8	Four Officeholders	00	00	00	00	00	--	00	0+	00	00	0+	00	00
IV-1	Influence Government	--	00	00	00	00	00	-0	00	-0	00	-0	00	++
IV-2	Influence State Government	00	00	00	00	00	00	++	-0	00	00	++	--	00
IV-3	Letter to Editor	-0	-★	0+	00	00	00	00	0+	00	00	00	00	00
V-1	Future Wars	00	00	00	00	00	00	00	00	00	00	00	00	00
V-2	World Problems	--	00	0+	00	00	-0	00	0+	00	00	00	00	00
V-3	Labor Unions	-0	--	00	0+	00	00	00	00	00	00	00	0+	00
V-4	Deferments	00	00	00	00	++	--	00	00	00	00	00	0+	00
V-5	Newspapers	00	00	-0	00	0+	00	-0	00	00	00	00	00	00
VI-1	Future Plans	--	00	00	++	00	-0	+★	00	00	-★	+★	00	-0
Writing														
A-1	Famous Person (Low)	00	00	-0	0+	0+	--	00	00	00	00	00	00	00
A-2	Famous Person (Medium)	00	00	--	0+	00	-0	0+	00	-★	00	0+	-0	00
A-3	Famous Person (High)	-0	00	00	00	00	00	00	00	-★	-0	00	00	00
B-1	Directions	00	00	00	00	0+	-0	00	00	00	-0	00	00	00
B-2	Sea Horses	-★	++	0+	-0	-0	00	0+	00	00	00	00	00	00
B-3	Application Blank	00	00	00	00	00	00	00	00	-0	00	00	00	00
C-1	Wrote Letter	00	00	00	00	00	00	00	00	00	00	00	00	00
C-2	Creative Writing	00	00	00	00	00	00	00	00	--	00	-0	00	00
C-3	Written Message	-★	00	00	++	-0	00	00	00	--	00	00	00	+★

Table 6 (Continued)

Result Code		Per Pupil Expenditure				Size of School by Per Pupil Expenditure			
		<$700	$700–800	$800–900	>$900	<$800 & <500 Pup	>$800 & <500 Pop	<$800 & >500 Pup	>$800 & >500 Pup
Citizenship									
I-1	Public Park	0+	-0	0+	00	00	00	00	00
I-2	Park Action	00	00	00	00	00	--	00	00
I-3	Willing	00	00	00	00	00	00	00	++
I-4	Traffic Light	00	00	+★	00	-0	00	00	++
I-5	Public Health	00	00	00	00	00	-0	00	++
I-6	Dog License	00	00	0+	00	--	--	00	+★
II-1	Police	-0	00	00	0+	00	00	-0	0+
II-2	Russia	00	00	00	++	--	00	00	0+
II-3	Races	-★	00	00	+★	00	00	—	+★
II-4	Believe	00	00	00	0+	00	00	00	00
II-5	All Three	-★	00	00	+★	00	00	-0	+★
II-6	Free Speech	-0	00	00	++	00	00	00	00
II-7	Why Laws	00	-0	00	00	00	00	00	00
II-8	Argument	-0	00	00	+★	00	+★	--	00
III-1	Why Government	00	00	-0	++	--	00	00	00
III-2	Presidential Power	00	00	-0	++	00	00	00	00
III-3	Two Candidates	00	00	++	-0	00	00	00	00
III-4	Voting	00	00	00	00	00	++	00	-0
III-5	Senate	00	00	00	00	00	00	00	00
III-6	Senators	--	00	0+	++	00	+★	+★	00
III-7	Vice President	-0	00	00	+★	-0	00	-0	++
III-8	Four Officeholders	00	00	00	++	00	00	00	0+
IV-1	Influence Government	-0	00	00	0+	00	-0	00	+★
IV-2	Influence State Government	00	00	00	00	00	00	00	00
IV-3	Letter to Editor	00	00	00	00	-★	--	00	0+
V-1	Future Wars	00	00	00	0+	00	00	00	00
V-2	World Problems	0+	00	-0	00	00	-0	++	00
V-3	Labor Unions	00	00	00	00	-★	00	00	00
V-4	Deferments	00	00	00	00	00	00	00	00
V-5	Newspapers	00	00	00	++	00	0+	00	00
VI-1	Future Plans	00	00	00	00	--	00	00	00
Writing									
A-1	Famous Person (Low)	00	00	00	00	0+	00	00	0+
A-2	Famous Person (Medium)	00	00	00	00	00	00	00	00
A-3	Famous Person (High)	00	00	00	00	-0	00	00	00
B-1	Directions	00	00	00	00	-0	00	00	00
B-2	Sea Horses	-0	00	00	0+	00	00	-0	++
B-3	Application Blank	-0	00	00	00	00	00	00	++
C-1	Wrote Letter	00	00	00	0+	--	++	00	00
C-2	Creative Writing	--	00	00	++	00	0+	-0	00
C-3	Written Message	00	00	00	0+	-0	00	00	++

V. HIGHLIGHTS

The purpose of the Maine Assessment of Educational Progress (MAEP) in 1972 was to complete the first phase of a ten-year comprehensive needs assessment program involving students in public and non-public schools of the state. The total program is designed to provide specific information about knowledge, skills, understandings and attitudes in ten subject areas.* The first phase investigated the areas of Citizenship and Writing using a state-wide probability sample of Maine's 17-year-old student population.

Compatability between MAEP techniques and materials and those of the on-going National Assessment of Educational Progress (NAEP) permits comparisons to be made between Maine results and those of the Northeast region† and the nation. Additional information collected from the students and schools involved with MAEP identified student background and school factors which are related to student performance. Specific exercises were linked to educational goals and objectives developed or adopted by Maine as being representative of those which Maine schools are trying to attain.‡

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*Citizenship, Writing, Science, Reading, Career and Occupational Development, Literature, Mathematics, Music, Art, Social Studies.

†Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

‡

Citizenship Objectives

I	Show Concern for the Welfare and Dignity of Others
II	Support Rights and Freedoms of All Individuals and Recognize the Value of Just Law
III	Know the Main Structure and Functions of Government
IV	Participate in Civic Action
V	Understand Problems of International Relations and Approach Civic Decisions Rationally
VI	Take Responsibility for Own Development

Writing Objectives

A	Write to Communicate Adequately in a Scholastic Situation
B	Write to Communicate Adequately in a Business or Vocational Situation
C	Appreciate the Value of Writing

Citizenship

In the area of Citizenship, the following general conclusions may be drawn.

Maine 17-year-old students were at an equal or significantly better level than students in the Northeast region or nation with regard to showing concern for the well-being of others.

Maine 17-year-old students more frequently reported a willingness to associate with people of other races than did their counterparts in the Northeast region and nation.

In response to various questions relating to a knowledge of how to use the services of local government, Maine 17-year-old students scored higher on some questions and lower on others than nationally.

Maine 17-year-old students were significantly more willing to allow a person the right to exercise free speech than were students nationally. However, the Maine percentage represents only a little more than one quarter of the total number of 17-year-olds in the state, indicating an area of Citizenship where more educational attention is needed.

The right of privacy was recognized by over three-fourths of Maine 17-year-old students, although this level of response still falls below that of the nation's 17-year-old students.

Virtually all Maine 17-year-old students could identify at least one reason for the necessity of laws, as was true nationally, and Maine's students did slightly better than did students in the Northeast region and the nation in listing additional reasons.

A significantly smaller percentage of Maine 17-year-old students than in the Northeast region or the nation correctly identified the ability of our legal system to settle arguments over debts.

Maine and national 17-year-old students did equally well in demonstrating factual knowledge about the structure and functions of government; 17-year-old students in the Northeast performed at higher levels on some items.

A higher percentage of 17-year-old students in Maine than the nation recognized that the President does not have unlimited powers, but a significantly lower percentage could give a reason why this is so, indicating another area of Citizenship learning where more attention should be directed.

A greater percentage of 17-year-old students in Maine than the nation could state a reason why elected representatives try to vote as their constituents wish.

A lesser percentage of 17-year-old students in Maine than the Northeast region or nation think they can influence state government, and national awareness of how citizens participate in governmental decisionmaking is sufficiently low that this area also seems worthy of notice by Maine educators.

Maine 17-year-old students did as well or better than their Northeast region or national counterparts in identifying world problems.

A significantly smaller percentage of 17-year-old students in Maine than those in the Northeast region or the nation could explain why workers would organize or form unions.

A significantly higher percentage of Maine 17-year-old students reported that they had discussed their future plans with parents or counselors than was true nationally.

Reviewing all Citizenship results together, the tendency was for Maine 17-year-olds to surpass national performance on concern for the well-being of others and respect for their rights as individuals. However, national achievement was so low in some of these areas that even Maine should not take comfort. Better understanding of constitutional freedoms in real life and the development of practical skills in citizen participation in government are the two main challenges to civic educators revealed by this assessment.

Writing

In the area of Writing, the following general conclusions may be drawn:

Maine 17-year-old student performance in essay writing was significantly lower than that of the Northeast region and the nation.

Maine 17-year-old students did as well as or significantly better than their Northeast region and national counterparts in exercises relating to ordering something through the mail and completing a job application form.

Maine 17-year-old students demonstrated a significantly higher appreciation of the value of writing than their Northeast region and national counterparts.

In general conclusion with respect to Writing results, it can be seen that more emphasis on scholastic writing opportunities is needed to align Maine student performance with that of the Northeast region and the nation.